MSS. and other Communications for the Editor should be addressed to Prof. G. E. MOORE, 86 Chesterton Road, Cambridge.

VOL. XL. No. 157. JANUARY, 1931.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

PROF. G. E. MOORE,

WITH THE CO-OPERATION OF F. C. BARTLETT, M.A., AND C. D. BROAD, LITT.D.

CONTENTS.

	PAGE
I.—The Concrete Universal: Cook Wilson and Bosanquet: M. B. FOSTER	1
II.—Why do we prefer Probabilities relative to many Data?: J. HOSIASSON	23
III.—Faculties and Instincts: C. A. MACE	37
IV.—Physical Objects and Scientific Objects: C. E. M. JOAD	49
V.—Discussion:—	
Mr. Ryle on Propositions: RICHARD ROBINSON	73
VI.—Critical Notices:—	
Contemporary American Philosophy: R. I. AARON	79
J. Piaget: *The Child's Conception of Causality*: S. ISAACS	89
A. S. Pringle-Pattison: *Studies in the Philosophy of Religion*: F. R. TENNANT	93
R. Reininger: *Das Psycho-physische Problem*: W. J. H. SPROTT	97
Sir J. G. Frazer: *The Growth of Plato's Ideal Theory*: A. E. TAYLOR	102
VII.—New Books	106
VIII.—Philosophical Periodicals	125
IX.—Note	130
MIND ASSOCIATION: List of Officers and Members	131

PUBLISHED FOR THE MIND ASSOCIATION BY

MACMILLAN & CO., LIMITED,

ST. MARTIN'S STREET, LONDON, W.C. 2.

NEW YORK: THE MACMILLAN COMPANY.

Price Four Shillings and Sixpence. ——— *All Rights Reserved.*

Yearly Subscribers will receive MIND *post free* from the Publishers on payment (in advance) of Sixteen Shillings.

Entered as Second Class Matter, March 15, 1929, at the Post Office at Boston, Mass., under the Act of March 3, 1879 (Sec. 397, P. L. & R.).

VOL. XL. No. 157.] [JANUARY, 1931.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—THE CONCRETE UNIVERSAL: COOK WILSON AND BOSANQUET.

BY MICHAEL B. FOSTER.

THE first thing necessary for a satisfactory discussion of the 'concrete universal' is an unambiguous definition of the term. In the absence of an accepted definition I shall define it for the purposes of this article (without wishing to prejudge the question whether such a thing can be or not, or even whether the formulation does not involve a contradiction in terms) as the universal which determines its own particularisation. In this sense the universal conceived by Aristotle was, in intention at least, concrete, and a brief discussion of Aristotle's doctrine may serve to elucidate the conception of concreteness.

It is necessary from the beginning, as it will be of vital importance throughout, to distinguish two different ways (or perhaps degrees) in which the universal may be conceived as actively determinant. First, the universal or 'Form' may be conceived not merely as a single universal characteristic which exists indifferently alongside others in a particular embodiment, but as a generic concept, which is active in determining (in 'generating') its own specific differentiations; in determining, that is to say, which characters shall exist together to constitute an actual 'kind'. This view of the universal is expressed in the logical doctrine that the differentia of a species is not another character added to the generic character, but a differentiation of the generic character. It is typical of Aristotle, but not peculiar to him. It depends upon the insight, which Plato very clearly possessed,

that the 'realm of forms' is not a mere multiplicity, but an intelligible system.

But the universal thus conceived is not yet concrete in the sense of our definition. This active determination by form as superordinate genus reaches only to specific differentiation, not to particular embodiment. Unless Form can be conceived as determining, not merely the kinds in which it is differentiated, but the concrete individuality of the instances in which these kinds are particularised, this particularisation must be ascribed to the mingling of Form with an alien principle and, because intelligibility extends no further than the activity of the universal, must remain inaccessible to thought. While Plato acquiesced in this conclusion, Aristotle undertook the stupendous task of exhibiting Form as active in determining not merely specific differentiations, but the particular being of the separate instances of the species ;[1] *i.e.*, of rendering the 'sensible world' penetrable by thought. In the Aristotelian doctrine of the form as ἐντελεχεία the sensible object was conceived as owing not merely its kind but its whole being to the activity of its form. Form did not impose an intelligible character upon a pre-existing matter, since 'pre-existing matter' could mean only 'matter existing in another form'. It imparted instead to the unreality of matter that which it needed to enable it to exist at all. Thus Form, as conceived by Aristotle, was the concrete universal in the sense of our definition, since it determined not merely its own kinds, but the particular embodiments of these kinds, not merely the essence but the existence of all things in the world.

The movement of thought which began with Galileo and which founded the natural sciences may be described as the insurrection of matter against this imposed determination by form. It developed in conscious opposition to the doctrine of 'substantial forms', and its fundamental principle of efficient causation was nothing less than the assertion that the existence of things is determined by other principles than those which determine their kind. The revolt was successful, and destroyed for ever after the claim of the Aristotelian universal to be concrete. The generic concept might still be conceived as determining its own specific modifications, but no longer as determining the existence of its particular instances. We need not ask here through what original flaw and internal weakness the Aristotelian doctrine had at last to surrender. Our purpose is merely illustrative, and it has per-

[1] *Cf.* Werner Jaeger, *Aristoteles*, *e.g.*, pp. 360, 407. I think that nearly everything of any value contained in this preliminary sketch is derived from Jaeger's book.

haps become clearer what demands the concrete universal, if it is to be restored, must satisfy. It must not be content to determine (and therefore to make intelligible) out of its own nature its own specific differentiations and to leave the existential differences to be determined by the alien principle of causation. It must make good the claim, which Aristotle's universal failed to sustain, to determine both essence and existence.

My purpose in the present article is simply to show that the attempt to conceive the universal as concrete in the sense which I have described, has been the driving force behind the doctrines of two philosophers very different from one another in other ways—Cook Wilson and Bosanquet—and to explain in what respects, as it seems to me, both fail. I cannot express too early the deep obligations which I shall be under in this undertaking to the articles recently published in MIND by Prof. Kemp Smith.[1]

Cook Wilson asserts with a downrightness never approached by those who have made a freer use of the term, that the universal is ' concrete ', in the sense that it determines both its own specification and its own individualisation.

> " Just as it is the very nature of the universal to be a unity which must take specific forms (number *as such* must be odd or even) so also it is its nature to be particularised. . . . The differentiation or different species of the genus *and individualisation or the individuals* are nothing outside the nature of the universal, and therefore do not require to be reconciled with it. . . . Green and red agree in being colour, but what they differ in is precisely also colour ; their differentia is not outside the nature of colour, nor are differentiæ in general outside the nature of the genus they belong to. . . . Similarly the individual or particular has not the universal *in* it and something *also* beside the universal to make it particular. *As the whole nature of the species is covered by the genus-universal, so the whole nature of the particular is covered by the universal.* In this particular colour there is nothing but colour : in this particular number there is nothing but number. The expression ' particularisation of the universal ' has been used instead of particular or particulars, in order to emphasise the fact that *the nature of the individual is nothing but what belongs to the universal itself. Particularisation is of it and in it as much as differentiation.*" [2]

Cook Wilson's doctrine that the attributes of particular substances are themselves particulars is important in this connection. Thus we are not asked to believe that the " whole nature " of the particular *substance* is determined by any universal quality

[1] " The Nature of Universals " by N. Kemp Smith. MIND, N.S. XXXVI. (1927), pp. 137, 265, 393.

[2] *Statement and Inference*, I., 335-336. My italics throughout. This is what Prof. Kemp Smith frequently refers to as the " Hegelian " trait in Cook Wilson's thought : *cf.* MIND, *loc. cit.*, 393, 402, 409.

which may be predicated of it, but only the whole nature of the particular attribute, in virtue of which the predicate can be applied. "The particulars or individuals of redness . . . are not red things, but individual red colours".[1] "In the sentence 'this flower is blue', 'this flower' is not a particular of 'blueness' since blueness does not cover its whole nature: the true particular of blueness is the *colour* of the flower, not the flower itself."[2]

So far the doctrine is fairly clear; just as the generic concept (the 'genus-universal') differentiates itself into its species, so the universal quality or characteristic particularises itself as the quality of this or that particular substance. The species is nothing but a differentiation of the generic character, and the whole nature of the particular quality is exhausted in its being an instance of its universal; and so, in the sense of our definition of the word, the 'genus-universal' is concrete in relation to its species and the 'universal' is concrete in relation to the particular attributes which are its instances.

But what we are interested in is not the differentiation of determinate species, nor yet the existence of particular attributes, but the existence of particular *substances*. By what universal are we to conceive the 'whole nature' of a particular substance determined? *Not*, as Aristotle had thought, by the generic concept as qualified by the specific differentia; Cook Wilson is content to admit the impotence of the 'genus-universal' to differentiate itself beyond the infima species: but by another universal which the poverty of language compels us to form for the purpose by adding the suffix '-ness' to the common noun by which the particular substance is designated. Thus the universal of "this flower" is "hyacinthness". And it is then asserted that the relation of particular substance to the universal thus formed is identical with that of particular attribute to the quality of which it is an instance; *e.g.*, that the whole nature of "this flower" is exhausted in its being an instance of "hyacinthness" in precisely the same sense in which the whole nature of its blue colour is exhausted in its being an instance of blueness! But I will quote the passage in full:—

> "In this sentence ['This flower is a hyacinth'] what the nominative case stands for is a particular in the strict sense of the word, and a particular substance. It is a particular of the universal represented by 'Aness'. Aness is not a mere universal, it has a special quality or character corresponding to the symbol A. The particular subject, corresponding to the nominative case of the verb, is said to have the quality Aness. In this form of sentence, with the indefinite article

[1] *Op. cit.*, p. 341. [2] *Op. cit.*, p. 349.

following the verb, the quality or character covers the whole nature of the substance A_1; that is to say there is nothing in its nature which is not comprised in its having the quality Aness. Observe that this relation must obtain between an individual and a universal, if the individual is a true particular of the given universal. For instance 'this flower' is a true particular of 'hyacinthness', whereas in the sentence 'this flower is blue' 'this flower' is not a particular of 'blueness', since blueness does not cover its whole nature: the true particular of blueness is the *colour* of the flower, not the flower itself." [1]

I am unable to see that this doctrine of Cook Wilson's, occurring at a point so critical for his whole argument, contains anything more than the dogmatic assertion of what is obviously untrue. It might well be asked not merely whether it is possible to assign to the conception "hyacinthness" the wealth of meaning with which Cook Wilson assumes it to be endowed, but whether it is possible to assign to it any meaning at all. But it is not necessary to pursue this question; for suppose that we allow to this universal all the claims that can be made for it; suppose we admit that every qualitative differentiation of which any particular hyacinth is susceptible—accidental variations no less than specific differentiæ—can be seen to be derived from this one universal character—still we have not made good the assertion that the "whole nature" of the particulars is "covered by" the universal. We have allowed at most that the whole of the qualities of a particular substance are thus covered. But it is the nature of a particular substance to be more than its qualities, to be that which has qualities, and this substantial being, this *existence* it is utterly impossible to regard as 'covered by' the universal of which "hyacinthness" is an example. We may allow (because it is not worth while disputing) that the precise shade of colour and length of leaf which "this hyacinth" possesses, it possesses in virtue of its being a particularisation of "hyacinthness"; but that this universal is capable of determining similarly the place and time of its temporal existence, is a claim which has only to be stated in order to be rejected as grotesque. But if so, then it is impossible to claim for this universal that "the whole nature of the individual is covered" by it. It is untrue that "individualisation or the individuals are nothing outside the nature of the universal", if precisely that substantive existence in virtue of which they are individuals is found to lie outside the nature of the universal.

If we search for the grounds upon which Cook Wilson could seek to base this false assertion, we are almost driven to the con-

[1] P. 349.

clusion that he was simply misled by the facile analogy between the relation of, say, red (particular attribute) to redness and the relation of hyacinth (particular substance) to "hyacinthness".[1] Because the nature of a particular 'red' can be conceived as exhausted in being an instance of redness, it is assumed without further enquiry that the nature of "this hyacinth" is similarly exhausted in being an instance of hyacinthness. But the cases are by no means identical. The conception 'particular *attribute*' is formed by abstraction from that in which it inheres; since its whole being is thus by definition *quality*, there is no difficulty in regarding it as exhausted in the exemplification of a universal quality. By calling it attribute we *mean* simply that, although it is particular, it has no being beyond its being a particularisation of such and such a quality. But we mean by substance that which has qualities and therefore is not itself quality; we mean precisely that, in an individual object, which is determined to be what it is, not by the character which it bears, but by the alien principle of mechanical causation.

This residual element of the individual thing, which is so fatal to his doctrine of the universal, is implicitly admitted by Cook Wilson himself whenever he speaks of an individual thing as "having the quality of its universal".[2] It is denied in his (Berkeleian) definition of a particular substance as a unity "of elements or attributes";[3] since, if substance is defined as consisting wholly in its attributes, then there can be no residual element which is not determined by its character, and which could be said to "have" its attributes. I do not know which of these mutually incompatible positions Cook Wilson would have elected to defend, but in no case could he have escaped from the following dilemma. If he admits this residual element, he nullifies at once his definition of the universal as "concrete". If he denies it, he has no right to use the phrase "particular substances" at all; he must deny efficient causation and the possibility of physical science; he must range himself, in a word, either with the Church against Galileo or with Berkeley against the physicists in a battle which has been long since lost and won, and of which the vain rehearsal can have no relevance to our present purpose. The

[1] *Cf. e.g.*, p. 341 ("... red in the particulars or individuals of redness ..., animalness in the particular individuals"); and p. 5 *sup.*

[2] The inconsistency sometimes becomes a contradiction in terms, as in the sentence quoted above: "the quality or character covers the whole nature of the substance A_1; that is to say there is nothing in its nature which is not comprised in its having the quality Aness". Then what is the "it" which has the quality? *Cf.* pp. 340, 351, for further examples.

[3] P. 190.

universal is not to be proved "concrete" by this desperate measure of denying the existence of the residual element which has been found to evade its control. The universal (if there is one) of which Cook Wilson's claims are to be made *good* must be one which can be shown to include this residual element within the scope of its determination.

Bosanquet's attempt to solve the same problem is at once more tenacious and more difficult to follow, in proportion as his account is more confused. The confusion, indeed the open and explicit contradiction, of Bosanquet's language has been exposed already in Prof. Kemp Smith's analysis, and I shall not attempt to do again what has been done so admirably.[1] I shall endeavour simply to make intelligible (what a reading of Prof. Kemp Smith's article makes appear inexplicable) how a writer of Bosanquet's distinction could be led to hold such language.

Prof. Kemp Smith's criticism of Bosanquet takes the following main lines; (my summary must be so compressed as to be quite inadequate, but I hope not quite unintelligible). Under what is ostensibly the single distinction of concrete and abstract universal Bosanquet is concealing or confusing no less than three separate contrasts. There is first the contrast based upon the well-known and paradoxical doctrine, derived from Bradley,[2] that the concrete universal is the individual; this is the distinction, in Professor Kemp Smith's words, between "identity of character as found recurring in numerically distinct particulars, and the self-identity of each continuant thing or self".[3] This distinction is clear and unambiguous enough in itself, and the only question which can arise is whether it is not simply an abuse of language to call the individual "universal" at all. But this is not by any means the only contrast which Bosanquet has in mind when he employs the pair of terms, concrete and abstract universal. He uses it secondly to indicate the distinction between the unity of particulars in a class and the unity of elements within a system (or of members within an organism or of parts within a whole). The common characteristic on the strength of which things are classified together in spite of their differences is the abstract universal; the system in which each element has its peculiar function, in which the parts reciprocally imply one another, and thus 'belong together' in virtue of their differences, is the concrete universal.[4] But there is a third phase,[5] in which Bosanquet

[1] For those points in which I think Kemp Smith has done less than justice to Bosanquet, v. *inf.*, p. 10, n. 1; p. 15, n. 3; p. 18, n. 1.

[2] *Principles of Logic*, 2nd ed., I., pp. 187-189

[3] Kemp Smith, *loc. cit.*, p. 266: *cf.* pp. 143-147.

[4] *Ibid.*, pp. 147-150.

[5] *Ibid.*, pp. 150-155, 269-273.

assumes a discrimination into abstract and concrete *within* the sphere of those very universals which in the two former contrasts were ranked together as abstract. A universal is now declared to be concrete in proportion as its content is complex, and in this sense the much-maligned class-concept, or *generic* universal itself is proclaimed to be, in contrast to the 'common quality', concrete, and indeed to gain rather than to lose in concreteness as its extension increases, although it becomes, in proportion to this increase, more 'schematic' and further removed from sensible reality. Thus Bosanquet maintains, in opposition to the formal doctrine of the inverse variation of intension and extension, that the wider generic concept is not formed simply by omission from the subordinate specific concepts, but that its richness and complexity (*i.e.*, its 'concreteness' in this third sense) may vary directly with its extension. ("Humanity, considered as a wider, and therefore as a deeper idea, may have more content, as well as more area, than Frenchmanity.") Upon this last usage of the term Professor Kemp Smith remarks: "We find him constantly contrasting what he entitles the '*merely* abstract' with what, though covered by the phrase 'concrete universal', is really the genuinely abstract".[1] "Bosanquet's twofold attitude" he adds at this point in his analysis "—alternately rejecting and accepting the 'merely abstract'—is so patently inconsistent that I may be suspected of having given an unfair presentation of his procedure. But as a matter of fact—at least so it seems to me—all that I have done is to set side by side statements which do not occur together, but always in different connections, in his logical and metaphysical writings".[2]

Individual as opposed to what is commonly understood by universal: system as opposed to class: generic concept as opposed to accidental predicate—all these are included by Bosanquet in the common designation "concrete universal". Is it possible to elicit any consistent doctrine from this mass of seeming confusion? I believe it is possible, by following the clue provided by dates of composition (a clue neglected by Prof. Kemp Smith) to understand Bosanquet's teaching not indeed as a consistent body of doctrine, but as a development in its main outlines both intelligible and instructive. This clue will lead us to take the three contrasts in the reverse order to that adopted above.

If we consider more or less at random the sort of phrases with which Bosanquet was accustomed to indicate the special character of the concrete universal—it is "the universal as asserting itself

[1] Kemp Smith, *loc. cit.*, p. 270. [2] *Ibid.*, p. 155.

to the full through identity and difference together ",[1] it is the universal which instead of attempting to ' segregate identity from difference ', ' contains and dominates ' its differences,[2] it is not indifferent to the other characteristics along with which it is found, but ' penetrates ' them, it achieves a unity by means of differences, not independently of them [3]—it strikes us at once that the distinction to which these terms are obviously and immediately suitable is the distinction between the generic concept as differentiated in its species and the universal quality as predicable of its instances.[4] Compare " This book and this banana are both yellow " with " Batrachians and Mammals are both vertebrates " or with " A line must be straight or curved ", and those phrases are at once illuminated. The book and the banana are alike in being yellow, but this common quality has no influence in determining what the other qualities of these objects are to be, and it is true not merely of our trivial instance but universally that possession of any one quality " makes no difference to " the other qualities possessed by the same object.[5] The generic concept, on the other hand, possesses a power of determining the specific character in which it is to be realised. A yellow object *may* be hard or soft or possess any conceivable tactual quality ; a line *must* be either straight or curved. This of course is because the generic concept is not a quality (it is not, in Locke's terminology, a ' simple idea '). A curved line does not possess two qualities " being curved " and " being a line ", but " being curved " is one of the alternative possibilities contained in the generic concept " line ". Batrachians and Mammals are alike in being vertebrate, but they differ also precisely in being vertebrate. I do not wish to belabour a point to which almost every recent logical work (Cook Wilson's of course no less than Bosanquet's) has done ample justice ; I merely wish to point out, first, that Bosanquets' distinction of the generic concept from the attributive predicate is true and important, secondly that, in the sense in which I defined " concrete " at the beginning of this article, the former is, compared with the latter and in a limited sense, ' concrete ', since the latter has no influence in determining its own particular embodiments, whereas the former does determine its own specific

[1] *Principle of Individuality and Value*, p. 72.
[2] *Cf.* Kemp Smith, *loc. cit.*, p. 156.
[3] *Ibid.*, p. 275. Most of these phrases are Prof. Kemp Smith's.
[4] I mean if individual *things* are taken as instances of a universal quality.
[5] Realisation of precisely this fact made Locke declare " Knowledge of Co-existence " impossible for men. *Essay*, Bk. IV., chap. iii., § 14.

differentiations; *i.e.*, it determines, if not the individuals, at least the *kinds* of individuals in which it is to be actualised.[1]

That large and important class of judgments which Bosanquet calls "analogical"[2] depends upon this fact. The species at least is determined by the generic concept; we have therefore only to know the species to which a given particular belongs (we have only to know that this flower is a rose or an orchid) in order to predicate of it *with necessity* specific (not individual) characters on the strength of our knowledge of the generic nature which is active in determining its own differentiations. Thus, given that this flower is an orchid, I can infer that it is insect-fertilised, whereas knowledge of others of its predicates (*e.g.*, that it is red) can give me no right to infer anything at all. Of course (because determination by the genus extends no further than to the infima species) the inference which knowledge of the generic concept justifies extends no further than to the *specific* (not to the individual) characters of the object; no botanical expertness will enable me to infer that this orchid is ten inches high, or at present in bud. Hence this latter kind of judgments are purely *a posteriori* and lack that apodeictical necessity which the analogical judgments possess.

Knowledge of a generic concept can thus be a ground of necessary predication. Since a generic concept expresses its nature in successive specific differentiations, since indeed apart from such differentiations its nature would be unexpressed and so unknown, and since from the nature of the case these differentiations must form an intelligible system (such as is represented by any scheme of division or classification) it follows that the knowledge of the generic concept, which we have seen to be the ground of necessary predication, is nothing else than the knowledge of a differentiated (or 'articulated') system. And not only is system the ground of necessary predication, but necessary predication implies an 'articulated' system as its ground.[3]

We are clearly getting closer to the second of Bosanquet's distinctions—that in which the concrete universal is identified with

[1] This determination reaches no further than to the infima species: thus the relation of the *specific* character to its individual instances is again that of the *abstract* universal to its particulars. This explains the violent oscillations of Bosanquet's attitude towards the generic concept; the genus in relation to its species *is* concrete, the species in relation to its particulars (the 'class concept') *is* abstract. The changes of attitude which Prof. Kemp Smith finds so perplexing (p. 155 ff.) are thus in a sense justifiable.

[2] *Logic*, 2nd Ed., I., pp. 212-223; II., pp. 86-108.

[3] *Cf.* especially *ibid.*, II., p. 85, where the credit for this discovery is attributed to Wundt and Lotze.

a system and contrasted with a class—but it would be a blunder to suppose that we have arrived there yet. " This orchid " is determined to possess certain characteristics by the generic nature of which its species is a differentiation ; because of this power of determining (and incidentally of serving as ground for inference to) other characteristics, which power it alone of predicates possesses, the generic concept is entitled to be called " concrete ". We now find that the generic nature can be expressed only as a system, but it does not immediately follow that " this orchid " is determined to possession of certain characteristics in virtue of its membership in a system. The ideal system of specific differentiations of a generic nature is one indeed in which " this orchid " could not conceivably have membership ; and it remains therefore, as before, determined to be the kind of thing it is, by its relation as subject to a predicate, not by its relation as member to a system.

But now Bosanquet takes his decisive step.[1] The system which is presupposed as the ground of necessary predication is never an ideal, but always a real, or, as he expresses it, an ' individual ' system. The species into which the genus orchid is differentiated are not mere thought-determinations, but actually exist in the world of nature. The genus orchid itself is an individual, in the sense that it is uniquely determined in space and time ; it has a determinate temporal existence within certain geographical limits on the earth's surface, and during an unique period of the evolution of the world.[2] It is as individual as Mount Everest.

If the genus exists in time, then the system of species which constitute the genus is a real system ; it is a system in which " this orchid " can (and must) be an actual member. We called the generic concept a concrete universal because it determined the specific characteristics of its particular instances. We now find that what we have called a concrete universal is not merely a concept, but an actual system. We have unwittingly stepped over into that second form of the distinction in which the concrete universal is identified with the system or " cosmos ", and in which it is concrete not merely in the sense defined at the opening of this

[1] *Op. cit.*, I., pp. 225 ff.

[2] *Cf. ibid.*, p. 226. " The individuality of the content dictates its own time, place and measure of existence. . . . It is characteristic of the rose to exist in a certain epoch of evolution and within certain limits on the earth's surface " : and p. 227 : " Rose in the abstract does not exist. But it is a concrete universal which has power, in the context of the real world to which we refer it, to dictate the epoch, place and quantity of its individual embodiment."

essay, but apparently also in the further sense that it exists in space and time.

In the argument which we have followed so far, and which represents Bosanquet's position in 1888, two crucial steps are taken, both of which Prof. Kemp Smith makes the object of his criticism. The first is the assertion that necessary connection implies an 'articulated' system.[1] The second is the assertion that any such system must have an unique historical existence in the real world. We will consider each in turn.

(1) Prof. Kemp Smith quotes [2] against Bosanquet that "necessary connexion" by which every particle of the material Universe is so intimately bound to every other "that a child's shifting of the sand upon the sea-shore alters the centre of gravity of the Milky Way".[3] No doubt this connection implies "system" in the physical universe, but not "a system" in Bosanquet's sense of the term, not a unity of the 'morphological' type. It is characteristic of such unities to form a totality or rounded whole against everything external; but the physical system is conceived as stretching to infinity in all directions. In Bosanquet's systems, again, a single generic nature differentiates itself in its species; but the character in virtue of which everything material forms part of the physical system, is in the first place undifferentiated in its instances, and exerts, in the second place, no determining influence upon the other characters with which it co-exists in its instances. It seems the very type of what Bosanquet dismissed as the abstract universal, in opposition to the generic concept. And yet the 'necessary connexion' which depends upon it is indubitably real and inexorably operative. Has not Bosanquet failed to make out his case even for his first step from the fact of necessary connection to an articulated system as its ground?

It must be admitted that the kind of necessary connection to which Prof. Kemp Smith draws attention is one which Bosanquet's *Logic* neglects, but it is important to see precisely how far Bosanquet's position is invalidated by the admission. Bosanquet has contended: of all the characters which can be predicated of a subject, the generic character alone is operative in determining what its further characteristics are to be; therefore, knowledge of this character and knowledge of no other of its characters is capable of serving as ground for necessary predication about the subject. But knowledge of the generic concept is necessarily

[1] Such as Bosanquet calls elsewhere a "totality".
[2] Kemp Smith, *loc. cit.*, pp. 149, 275 ff. [3] *Ibid.*, p. 275.

knowledge of the system of its differentiations. This system is therefore the ground of that necessity. The instances cited by Prof. Kemp Smith do not overthrow this contention; they do not in the slightest degree tend to show that a necessary predication may be based on a character of the subject (*e.g.*, 'heaviness') which is not a generic character. But they do represent a form of necessary connection (namely causal connection) which does not depend upon *character* of the subject at all, because it holds of that 'existential' element of particular substances, which we have found to elude determination by the generic concept.

Scholasticism had declared that the whole being of a substance was determined by its character (substantial form). The new philosophy based on Galilean physics had retorted that everything was determined to be what it was by its causal relation to the infinite system of everything else, and that character or form was wholly inoperative. Bosanquet, basing himself upon the 'comparative' sciences, cries, in reaction against the physicists, "Form *is* operative". He forgets that the physical sciences continue to exist none the less because the comparative sciences have arisen by their side, and that his results can claim an application at least no more extended than the sphere of observation from which they were derived.

The understanding of Bosanquet's *Logic* becomes suddenly illuminated by the recognition that it is derived almost exclusively from reflection upon the 'comparative' sciences (Botany, Zoology, Anthropology)[1] and its conclusions then applied uncritically to the whole of knowledge. The comparative sciences are, roughly, the sciences of Life; and to them Bosanquet's conception of 'individual system' is, as we shall see, genuinely adequate. But below them exist the sciences of matter, which work with the conception of causal law[2]; and above them exist the sciences of spirit (the

[1] *Cf.* Kemp Smith, *loc. cit.*, p. 275.

[2] It will be seen that I am taking no account of recent scientific theories, which apparently deny causal determination within the sphere of physics itself. This essay is an historical study, and a discussion of such theories can of course have no relevance to an understanding of Bosanquet. But, if I may allow myself for a few moments the impertinence of dabbling in matters which I do not understand, I may remark that to the untrained observer recent developments of physical theory seem all to tend in the direction of claiming for the object of physics those characteristics (activity, freedom and individuality) which belong properly to spirit. It is almost as though Physics, seeing its claim to be the science of all reality threatened by the growth of the historical sciences (which must, after all, be sciences of *something*) were attempting to steal its rival's thunder. But of course in appropriating the conceptions proper to the sciences of spirit it degrades them beyond recognition. Thus in the old physics matter was passive, and

historical sciences) which work with the notion of the individual. Since system is intermediate between (causal) law and individual, it was inevitable that an attempt to extend this conception beyond its proper sphere into the spheres both above and below it should lead to that confusion of thought and terminology in which Bosanquet's doctrine is in fact obscured.[1] But within its own

left activity to spirit; the new physics makes energy its fundamental conception. But energy is only a debased activity. In the old physics matter was determined, while spirit was free; "Indeterminacy" is an attempt to emancipate matter, but it secures it only the bastard freedom of indeterminism. The theory of Relativity, finally, is an attempt to secure for each of the objects of physical science that individuality or uniqueness which belongs to the objects of history. It succeeds: but the individuality is rather like that of the numbered houses in a suburban street: each is the one it is by not being another. Each event is unique, because every point-instant of space-time is exclusive of every other. But this uniqueness is only a pale reflex of that positive individuality which historical events possess.

Perhaps all this, even if it is true, is not in any way to discredit the new physics. But this emulation is very honorific to the historical sciences.

[1] For Bosanquet's assumption that the 'concrete universal', conceived as system, is the ideal of *all* spheres of knowledge, see Kemp Smith, *loc. cit.*, p. 265; and *cf. e.g.*, Bosanquet, *Logic*, I., 231. "The nature of mind is present in everything; the only difficulty is to see it there. And such an elevation is not false, except in as far as it is exceptional. . . . Not merely a fragment of stone or metal, but a colour, a curve, a relation of size or weight, is ideally capable of being passed through the stages of generic judgment, of being regarded first as an individuality and then as an individual." Or *ibid.*, II., 94: "It is on this characteristic" [capacity of being regarded as a concentration of means in a distinguishable result] "*of all universals*, that anticipation by analogy rests", (my italics). Or *ibid.*, 98-99: "The common analogical inferences which run throughout our treatment of organic and even of inorganic nature rest practically on the existence of natural kinds, that is to say on morphology or on *de facto* teleology". The "even" indicates a doubt: but on the very next page it has disappeared: (p. 100 ". . . organic and inorganic world"). A remarkable passage on the same page is inconsistent with this general assumption: "Analogy is never demonstration. A thorough mechanical nexus and a subordination to conscious purpose in intelligent beings or rational system both *pro tanto* exclude it"—*i.e.*, analogy is excluded from the spheres both of matter and of spirit ("conscious purpose" is Bosanquet's highest conception of spirit). But Bosanquet can never escape for long from the conviction that both these spheres are *pro tanto* illegitimate. The examples given illustrate extension of 'morphological' conceptions into the sphere of the physical sciences. Of the corresponding tendency to extend them into the realm of spirit the sub-title which Bosanquet gives his *Logic* is eloquent. "The Morphology of Knowledge" implies that Logic itself is to be a comparative science. It is symptomatic of the same attitude that "organic unity" represents for Bosanquet, as for Bradley, the highest degree of intelligibility: (they conceive the state, *e.g.*, as an 'organic whole': so did Herbert Spencer).

sphere Bosanquet's contention seems unshakable: the possibility of that kind of inference (not causal inference) which is peculiar to the comparative sciences does imply as its ground just such an articulated system as Bosanquet conceived.

(2) The commotion arises about Bosanquet's second step. To assert that there must be systematic articulation in the world of universals is one thing; but it seems quite another thing to assert that this articulated system must have an historical existence in space and time. Is not this merely to replace your universal by a particular? For whoever heard of a universal existing in space and time? And yet this transition is essential to Bosanquet's whole doctrine of the concrete universal.

We must first inquire into Bosanquet's grounds for making it. He does not state them very explicitly and they have often been overlooked,[1] but they are in essence the ontological argument from the organised complexity of a system to the necessity of its real existence. This argument is always implicit and sometimes expressed, as in the following passages:

> "The mere *implication* or presupposition of real existence, to which in one way or another we do undoubtedly come in the Universal Judgment, is not extraneous to the affirmation and dependent on mere fancy or habit of ours, but is the lineal descendant, *mutatis mutandis*, of that so-called existential affirmation which we have traced in perception and in narrative. *And the strength of this implication depends on the concreteness of the idea which forms the immediate subject in judgment*".[2]

and:

> "*For us* it is plain such individuals" [the so-called individual generic concepts, such as 'the Orchidean order'] "are intellectual constructions and only attached to, not shut up within, the actual present perception. The distinction between concrete realities and abstract truths is not, for us at any rate, that the latter are intellectually initiated and the former are not; it is not a question of origin, but a question of nature, *i.e., of the degree in which a content is capable of being regarded as something that exists as a whole and can be considered in relation to itself*".[3]

[1] To some readers, *e.g.*, the ground of the transition has seemed nothing more substantial than an ambiguity in the word 'concrete'.

[2] *Logic*, I., p. 225. My italics. Thus the two senses of "concreteness" are not confused, but the one (real existence) is declared to follow necessarily from the other (articulated content). For the distinction of the two senses of the word, *cf. ibid.*, p. 214. But I will not assert that there are no passages in which Bosanquet simply confuses the two senses.

[3] *Ibid.*, p. 230. My italics. *Cf.* the passage quoted p. 11 *sup.*, n. 2. Prof. Kemp Smith fails to see the ground for the transition: v. *loc. cit.*, p. 273: "The orchidean order is an *order;* humanity is a title for the human *race*. To entitle families, orders and races 'individuals' simply because (so far as I can follow the argument) they are highly articulated complexes,

This same ontological argument is the fundamental postulate of the Logics of Bradley and of Bosanquet, and Bradley asserts distinctly enough that it is no more than a postulate.[1] Thought is for both of these authors alike a process which, though it springs originally from a contact with a given reality, develops out of and away from the given into a system of ideal determinations within which an internal consistency is the immanent standard of truth. Is there plausibility, is there even any meaning, in claiming that this ideal system must have a counterpart in that reality from which it had to divorce itself in the beginning as the condition of its own development? No plausibility, says Bradley, and hardly any meaning; only we must suppose it, if Logic is to be possible at all.

Here, as everywhere, Bradley's penetrating thought has exhibited the bankruptcy of a common-sense philosophy; and seems incidentally to have destroyed the very foundations upon which Bosanquet's doctrine of the concrete universal was being built up. If we have no guarantee even of the correspondence of an 'ideal system' with reality, what warrant have we to speak of the 'active determination' of the latter by the former? The "generic concept" is precisely such an ideal system: we see now that it can neither, as ideal, exercise any determining influence over a particular reality, nor itself pass into the sphere of reality over the rickety bridge of the ontological argument. That whole argument of Bosanquet's, in which he is at one with Cook Wilson and, I think, with every recent Oxford logician,[2] which is engaged in vindicating the determining activity of the generic concept, is really a protest [3] against the opposite doctrine that physical causation is the only active determinant. It is justified by the falsity of its contrary alternative, but is, by itself, a mere resurrection of Scholasticism. The truth, of which these opposing doctrines are the halves, is the real generation of species, which was brought to men's consciousness by Darwin. If Bosanquet had but seen it, what Darwin did was to make the ontological argument superfluous for ever more; he took that 'ideal system' which previous naturalists had created, and by a stroke of the pen converted it

is surely to bring endless confusion into our logical discussions." 'Individual' does not *mean* 'highly articulated'; but Bosanquet's argument is that a system sufficiently complex must have historical existence—*i.e.*, be 'individual'.

[1] *Principles of Logic*, III., II., chap. iv.

[2] *Cf. e.g.*, Joseph, *Introduction to Logic*, 2nd Ed., pp. 83-88. (*Ibid.*, pp. 88-89 are some remarks on the connection between generic determination and the Evolution of Species.)

[3] Based upon the study of Aristotle, and deriving force (perhaps unconciously) from the growth of the biological sciences.

as it stood into an historical reality. What had been a scheme of conceptual determinations became in 1859 an actual pedigree, and the promise contained in the term ' generic ' received a startling fulfilment.

Thus Bosanquet's instinct was right, though his reasoning was not flawless. He *started* with the ' ideal system of determinations ', and *then* tried to predicate reality of it; which, since it was *ex hypothesi* ideal, he could not consistently do. He ought to have seen that the ' ideal system ' is, since Darwin, a ghost; there is no such thing as the ' activity of the universal in determining its own specific determinations ', there is only the development of the species through actual generations. The race which develops is the concrete universal which needs no ontological argument to add concreteness to it.

If the title of ' universal ' is allowed to the differentiated generic concept, I do not see how it can be denied to the race which develops, since this latter possesses everything which the former possessed, and in addition that ' real efficacy ' which the former excluded from itself, and which, as determined by the exclusion, became ' efficient causation '. No doubt the objection will be raised that this so-called ' concrete universal ' is ' merely a particular '. I grant at once that if the dichotomy of the universe be allowed into universals apprehensible by thought and into particulars apprehensible by sense, the concrete universal will not fall into the former class: the Orchidean order is not apprehensible by thinking. *But neither will it fall into the latter class:* ' the Orchidean order ', ' the Eocene period ' ' the race of Saurians' are not apprehensible by *sense*. To the argument: " These are not, in my sense of the word, universals, therefore they must be particulars ", we can easily retort: " These are not, in your sense of the word, particulars, therefore they must be universals." The truth is that they are neither, but something in which the antithesis is overcome; they are apprehended neither by thought nor by sense, but by that activity comprehending both, which every great philosopher during the struggle of Empiricism and Rationalism set before himself as an ideal; " sensitive knowledge," " scientia intuitiva ", " intellektuelle Anschauung "—all these ideals found a realisation (though, as we have still to see, an imperfect one) in the knowledge of the concrete universal revealed by Darwin; that is surely the only conceivable explanation of the excitement caused by his revelation.

We have little space left to do justice to Bosanquet's third antithesis,[1] in which the abstract universal is contrasted with the

[1] *V.* p. 8, *sup.*

individual, and any subject which can be designated by a proper name is presented to us as a type of the concrete universal.[1] This third antithesis is characteristic rather of the Gifford Lectures than of the *Logic;* it is an attempt to remedy those deficiencies which characterise even the 'individual system' (the race which develops), regarded as a realisation of the concrete universal; but as these deficiencies are rather confusedly felt than distinctly perceived, the conception of the concrete universal as an individual remains for Bosanquet an ideal groped after, not an idea thought out.

Measured by our original definition of the concrete universal as the universal which is active in determining its own particularisation, the deficiencies of the 'individual system' are obvious enough. Just as the 'generic concept' could be conceived as determining only the specific qualities of the particular, so the race which develops determines in fact only the specific qualities of its individual members;[2] and further, although, regarded as a whole, the individual system is precisely determined as to its own existence in space and time, regarded as a universal, *i.e.*, in relation to any given particular member of itself, it is impotent to determine the space and time of *its* particularisation, save in so far as that must fall *somewhere within* the wide spatial and temporal area occupied by the genus as a whole; at *what* time and at *what* place within these limits, that lies outside the determination of the universal and in the domain of causality.

There is great confusion on this point in Bosanquet's *Logic*,[3] and space is too short to analyse it properly. When Bosanquet says, *e.g.*, "Rose in the abstract does not exist. But it is a concrete universal which has the power, in the context of the real world to which we refer it, to dictate the epoch, place and quantity of its individual embodiment",[4] we must ask more narrowly *what*

[1] When Prof. Kemp Smith identifies the Concrete Universal, in this sense of it, with "the self-identity of each continuant thing or self" (*loc. cit.*, p. 266), or with "the continuant as found in things, and in selves and in all change" (p. 280), this is a travesty to which Bosanquet has laid himself open, but it is a travesty none the less. However incautious Bosanquet's language may sometimes be, it is perfectly plain that he means by the 'individual' *not* anything whatever that can be designated by a common noun, but that which can be designated by a proper name; not, *i.e.*, the 'particular substance' of nature, which is subject to change, but the historical individual, which is capable of development. To put it shortly: Bosanquet is seeking for the concrete universal, which must include both essence and substance (*v. inf.*) Prof. Kemp Smith charges him with a simple identification of substance with essence.

[2] As Bosanquet remarks in another connection, "Evolution only accounts for essential changes and their consequences." *Logic*, II., p. 102.

[3] See especially *ibid.*, II., pp. 226-227.

[4] *Ibid.*,. p. 226.

existence is " dictated ". If the existence of the Rosacean order as a whole, that is indeed determinate, but it is in no sense dictated by the universal " Rose " : the genus rose is not a universal in relation to itself. In relation to particular roses, on the other hand, the genus rose is universal, but it is *unable*, except within very wide limits, to dictate the place and time of their individual embodiment. Thus the two " aspects " of concreteness and universality which must coincide in the concrete universal, tend in the ' individual system ' to fall apart. It is not quite concrete *quâ* univeral and not quite universal *quâ* concrete.

It is now obvious that the conception which supplies the deficiencies of the ' individual system ' is the historical individual —not primarily the individual person, but such individuals as ' the Athenian *ἀρχή*', ' the Roman Catholic Church ', ' the Renaissance '. These do indeed penetrate the very being of their constituent particulars,[1] and obliterate for the first time the hard and fast distinction within them of essential from accidental qualities ; [2] and they determine not merely the spatial boundaries and temporal limits *within* which their members shall exist, but the precise time and place of their existence. They are the objects *par excellence* of intellectual intuition ; [3] they are the true concrete universals, because they are concrete *quâ* universal and univeral *quâ* concrete ; they do not, like all other universals, leave a residuum of ' the accidental ' unpenetrated and therefore inaccessible to thought.[4]

[1] Which are now no longer rightly termed ' particulars ', since that implies relation to an abstract universal ; the ' particulars ' of a concrete universal are themselves individuals. Bradley of course asserts this in a well-known passage (*Principles of Logic*, I., p. 188).

[2] They do *not* thereby make all qualities equally " essential ", *i.e.*, the relation of concrete universal to concrete ' particular ' is not that of whole to part. But this is obviously no place to begin a discussion of the nature of the historical universal. Prof. Kemp Smith perceives that the ideal of the concrete universal, as conceived by Bradley and Bosanquet, implies the obliteration of the ordinary distinction between " properties and accidents," but does not notice that this obliteration is equally characteristic of Cook Wilson.

[3] The supposition that the objects of History are sensible is almost too ridiculous for refutation. But it is perhaps worth while to point out that this fact depends upon their essential nature, not upon the fact that they are ' in the past '. No one would pretend to see, hear or touch the Roman Empire, but no more is the British Empire visible, audible or tangible. Sensible things are never objects of History.

[4] Ranke described the historical universal as " the universal which does not, as it were, proceed out of the particular and the manifold, but is itself something particular, which comprehends its elements " (" die Elemente unter sich begreift ").

Bosanquet was prevented from taking this final step by his failure to comprehend the nature of the historical universal,[1] and yet he was driven by those deficiencies which we have tried to point out, to seek for some more adequate realisation of the concrete universal than the 'individual system' which had satisfied him in 1888. He sees that what is required is something "individual"; he sees that the individual person, though well enough as a type of what is wanted, is inadequate as a solution;[2] he is precluded from recognising the true historical individual; and he is condemned therefore in his later work to conduct a fruitless search for adequate examples of the concrete universal, which can none of them in reality supply more than a plausible analogy. Thus "the best way to think of a finite individual is to bear in mind the nature of a work of art, or of the moral temper as analysed by Aristotle, or of an organic being. . . ."[3] And he is driven finally to the paradoxical conclusion that that concrete universal, which was shown to be the culmination of the proper development of thought, is yet *realised* never as thought, but as Art, Religion or Love.[4]

If we once claim any degree of concreteness for the universal, there is no stopping along that path short of the historical individual. But can we repudiate the whole movement, as Prof. Kemp Smith does?[5] Can we follow him in declaring that all universals both are and ought to be abstract?[6] No, we cannot,

[1] See *Principle of Individuality and Value*, p. 78, for his repudiation of it.
[2] See *Logic*, II., p. 206.
[3] *Principle of Individuality and Value*, pp. 120-121: the analogy with a work of art is continually recurrent: *cf.*, *ibid.*, pp. 34, 57, 107.
[4] *Ibid.*, pp. 62-63.
[5] Kemp Smith, *loc. cit.*, p. 408 ff.
[6] Consistency in this repudiation demands that all pre-eminence of the generic concept over other predicates shall be denied; the generic character must be considered strictly as one attribute existing *alongside* the specific differentia, not in any way as differentiating itself in its species. Prof. Kemp Smith does not shrink from this consistency. "Every existing triangle must of course be more than simply an embodiment of the type triangle; but to whichever of the sub-types, equilateral or isosceles or scalene, it may belong, *the unvarying identity of the main type is not affected by the diverse ways in which it is thus achieved.* . . . In apprehending triangularity or animality we are, of course, alive to various alternative possibilities, *but this only means that we are interested in other characters besides triangularity and animality.*" (Pp. 416-417. My italics). And he sees quite clearly that to adopt the alternative view of the nature of the generic concept is to admit the thin end of the wedge. "To allege that no conception of triangularity or animality is adequate, unless it contains reference to different species in which it can be embodied, is virtually to allege that no conception is adequate unless it extends to the detail of all the varying particulars to which it applies. Short of this there is no consistent stopping-place."

because (since the 'emancipation' of matter at the dawn of modern philosophy) no formulation of the abstract universal can avoid falling a victim to the contradiction contained in the conception of 'material substance'. The classical representation of this fatality is to be found in the history of English Empiricism, and the process of it is familiar enough. The first step is the discovery that a particular thing cannot be regarded as the particularisation of a universal, because there is 'something in' a thing (the same 'something' which makes it susceptible of causal interaction) which is not exhausted in its being the particularisation of any universal, or of any number of universals. The true particulars of universals must be conceived, therefore, not as particular things but as particular qualities,[1] whose nature can be conceived as exhausted entirely in their being the particularisation of a universal. But then there springs up beside this intelligible relation of universal to particular, the wholly unintelligible relation of attribute to substance. We are unable on the one hand to conceive these particular qualities except as attributes, and we are unable on the other hand to conceive without inconsistency the substance of which they are attributes. It is thus the ultimate contradiction of Locke's philosophy that he was compelled by a necessity of thought [2] to postulate a conception (the idea of substance) which he himself realised keenly enough to be self-contradictory for thought.[3] Nor is any solution to be found by following Berkeley and Hume in denying 'material substance' and asserting that a thing is no more than the sum of its qualities.[4] He who does this is involved in a denial of efficient causation, and is totally unable to account for the physical sciences of nature.

The relation of attribute to substance is thus the Nemesis,[5] to apply a conception of Hegel's, which dogs the footsteps of the abstract universal and proclaims its insufficiency. Or, to express it otherwise, Substance is the Nemesis of Essence. It broke loose at the end of the Middle Ages from that immediate identity with Essence in which it had formed the heart of the Aristotelian philosophy, and its separate existence thereafter was a warning that

[1] This is the essence of Locke's doctrine of simple ideas. He is followed in this by Cook Wilson, to whose doctrine much of what is said here will be found to apply.

[2] *Essay*, II., xxiii., 1; First letter to Stillingfleet. *Cf.* on this point Gibson, in *Locke's Theory of Knowledge*.

[3] *Cf. Essay*, II., xii., 6; xiii., 20.

[4] As Cook Wilson is sometimes, though not always and not consistently, inclined to do. *V. sup.*, p. 6.

[5] "Schicksal." (I have not elsewhere made specific acknowledgment to Hegel. My general obligation to him is too deep to be specified.)

Essence, conceived as exclusive of Substance, could no longer claim to be the supreme principle of intelligibility, or 'the Universal'. That which should take its place as the universal must be a new conception including both Essence and Substance within itself. To find such a conception was the central problem of Leibniz's philosophy.[1] The term 'concrete universal' is simply another name for the conception which he was seeking and in which the old conceptions of essence and of substance should both be included. For us who come after him it is, no doubt, allowable to reject any given solution; but to repudiate the *idea* of the concrete universal on the ground that it does not conform to the Aristotelian model is surely to ignore the principal lesson of the seventeenth century. The supremacy of the Aristotelian universal itself depended on its unquestioned claim to be concrete. To claim Aristotle as an authority for the abstract universal, argues a misunderstanding of his doctrine. Aristotle's οὐσία does not *mean* essence any more than it means substance, but is the undifferentiated unity of them both. The idea of the concrete universal is nothing else than the redintegration of this unity.

[1] Leibniz set himself from the first to reconcile the scholastic and the Cartesian doctrines of substance; *i.e.*, to reconcile the conception of the Substantial Form (or essence) with that of Material Substance, and recognition of this has been called the key to his whole philosophy (Dillmann, quoted by Latta in his edition of the *Monadology*, p. 156: *cf.*, *ibid.*, p. 221, n. 14, and Introduction *passim*).

II.—WHY DO WE PREFER PROBABILITIES RELATIVE TO MANY DATA?

By J. Hosiasson.

Whenever we take account of the probability of a particular event, say the probability that a particular thing is B,[1] we are thinking of the thing under a more or less *general* description; *i.e.* we are thinking about the particular thing as appertaining to a more or less general class of things. If, *e.g.*, we (or an insurance society) take account of the probability that our friend Mr. P. will live more than ten years, we may think of him as a man fifty years old, of strong health, whose father lived until seventy. But we might think of him, besides, as a man who has an irresistible inclination for dangerous enterprises, for instance, very fast motor-driving, dangerous mountain climbing and so on; and if we examined him and his genealogy more particularly, we might think of him, in addition, as a man who in the next few years will develop a bad tumour, whose grandmother and the greater part of his ancestors of the second remove have died before 60, and so on. The probability which we should then take into account would be *other* than before. If we take into account the probability that this card lying face downwards on the table is a court-card, we may have regard to the fact that a minute ago somebody has drawn it from a pack of fifty-two playing cards and reckon the probability as 3/13; but we may also, by a nearer examination of the back of the card, find that there is a mark on it, and we may know that amongst the marked cards only 1/5 are court-cards. After taking the mark into account our probability will be *other* than before.

Thus my problem is the following:—

I. Why do we take account of probabilities in particular cases

[1] For the sake of simplicity we shall speak only about probabilities of events of the above form, *i.e.* more strictly about $\frac{\text{X is B}}{\text{X is A}}$ in Mr. Keynes' symbolism, where "X is B" and "X is A" are propositional functions; *cp.* J. Lukasiewicz: *Die logischen Grundlagen der Wahrscheinlichkeitsrechnung*, Kraków, 1913.

when all the time we know that they would *change* if the cases were considered more closely than they are ?

The simplest answer which occurs at first sight is, I think, the following :—

It does not matter that the probability may change on further information ; what matters is only that in each case for which we are giving the same description we should take the same probability into account. If we do this, we shall be all right in the long run, because, as the frequentists would say, the frequency will then be equal to the supposed probability, or because, as the non-frequentists would say, it will be very probable that the frequency will be very near to the supposed probability.

We might object to the frequentists that they are not precise ; and again we might perhaps say to the non-frequentists : " very probable " only if the events in the long-run series are described in the above way. And after all (we might ask), why are we all right when the frequency is equal to the supposed probability ? But these questions will be considered lower down [2] and they are not the main objections here.

The greatest difficulty which we meet if we give the above first-sight answer is, I think, the following :—

If it does not matter which description we give, why do we always want to have as close a description as possible ? *i.e.*

II. Why are we the more satisfied with our probability the more particulars about the given case it takes into consideration ?

This question might be expected to cover the former. It is, moreover, highly interesting on its own account and will be the only question raised in the rest of this paper.[3]

1. Again, the first-sight answer to it is, as it seems to me, one or other of the following : The more factors in a particular case we know, the smaller is the amount by which the remaining non-considered factors can change our probability, *or* the smaller is the probability that the remaining non-considered factors would change it considerably. Behind the first of these two answers is hidden the following argument : Suppose (α) we have n factors which might be relevant to the probability of our event.[4] Suppose we first examined k of them and found the

[2] See p. 31 *inf.*

[3] *Cp.* J. M. Keynes, *A Treatise on Probability*, London, 1921, chap. vi, " The Weight of Arguments," and, besides the authors cited there, C. D. Broad, *Perception, Physics and Reality*, 1914, pp. 152-155, and MIND, 1922, p. 78.

[4] " Relevant," in the sense of Mr. Keynes (*loc. cit.*, p. 55), to the event on evidence already got before the knowledge of the factor considered.

probability equal to p_1; then another set of factors, l, in addition, and found the probability equal to p_2. If (β_1) for each of the remaining n-k factors there is a maximum amount by which it could change our probability in either direction, the maximum amount by which our probability could be changed in sum is smaller for p_2 than for p_1. The second alternative answer also assumes (α) and, in addition, (β_2) some appropriate laws of probabilities for changes in probability by the remaining n-k factors, such that (γ) there is a smaller probability that p_2 will be changed by the remaining factors by a considerable amount [5] than that p_1 will; or there is an equal probability that p_1 will be changed by the remaining factors by a bigger amount,[6] and that p_2 will be changed by a smaller.[7]

Both arguments, however, require two assumptions: (α) that the number of factors commensurable with the k factors which might be relevant is finite [8], and (β_1) or (β_2). They imply also a theory of counting factors. Besides: If we believe in determinism, then we must admit that the consideration of *all* existing factors must make the probability 1 or 0. Thus, if, as is quite possible, our probability after examination of farther factors approaches $\frac{1}{2}$, the smallest amount of change which it *must* suffer by the consideration of all factors is bigger than before; and there is certainty as to some change bigger than an amount $< \frac{1}{2}$, as to which there was only a probability before.

This difficulty can be met by the opinion that we are only satisfied with a closer knowledge about a case when it gives us a probability nearer 1 or 0;[9] and this opinion may pretend to be partially based on the fact that, *e.g.*, a court of justice would not be satisfied however many facts it might know about the case under consideration, if those facts would make the probability that the accused man killed somebody only $\frac{1}{2}$ or thereabouts; it would, however, be satisfied and give a decision if those same facts would give a probability nearer 1 or 0 [9] than before. That is true, but not for the above reason. I think the reason here is that when we are risking a loss that is big in comparison with the possible gain we are only satisfied with a big probability of not incurring it, and all the more so if the possible loss is so very big as it is in either decision of the court in the above case. Moreover, there are many situations where we *are*

[5] More strictly—by more than a certain amount.
[6] More strictly—by more than a bigger amount.
[7] More strictly—by more than a smaller amount.
[8] Otherwise the conditions (β_1) and (β_2) would become very complicated.
[9] According to whether it was before nearer 1 or 0.

just as well satisfied with a probability near $\frac{1}{2}$ as with one near 0 or 1, *e.g.*, in games where we can adjust our loss according to the probability. And besides, in passing sentence, the judge will take account of the probability based on bigger knowledge, even if it is nearer $\frac{1}{2}$.

2. But the last arguments given as first-sight answer to the second question put on p. 24, may be maintained on the ground of a farther assumption. It is, namely, theoretically possible that in multiplying relevant factors we arrive in certain cases at a point where no farther factors would change considerably the probability of our event, or—if one factor would change it, another, easily discoverable after the first, would balance it again, and so on, until we reach a factor which will at once make it 0 or 1. Take, *e.g.*, our example concerning the probability that a card drawn from a pack of playing cards, say—for the sake of simplicity—of 24 (*i.e.*, containing only 9, 10, and ace beside the court-cards) is a court-card. Suppose—also for the sake of simplicity—that the card was drawn from the top of the pack. Before examining the remaining cards of the pack our probability may be said to be equal to $\frac{1}{2}$. Now, by examining the bottom half of the pack, *i.e.*, the 12 bottom cards, we get additional knowledge as to the proportion of the court-cards amongst the remaining half of the pack. But, if the cards have been properly shuffled, the bottom part of the pack will contain approximately the same proportion of court-cards as the whole pack and our probability will not change considerably. Similarly, farther knowledge got by examining the next bottom half of the pack, *i.e.*, the 6 bottom cards of the remaining half, would not appreciably change the probability for the same reason; and so on until we come to consider the card or cards which will make the probability at once 0 or 1. Let us call the above situation of acquired knowledge (when no farther factors would appreciably change the probability of the event until that which makes it 0 or 1) an *Indifference Situation*. We might give many examples similar to this, and it could be maintained that the probability obtained by attaining the Indifference Situation is the ultimate probability which it is important to approach by farther knowledge, and not 0 or 1. But in the very same example of the pack of cards, is it *certain* that farther information will be of the above type? Is it not possible that by looking into the pack we shall see that a considerable number of non-court cards are left in it, and so change considerably the probability that the drawn card is a court one? Or the farther information may be, as in the first example with the pack of cards, that the drawn card is in

some way marked, and we may know that among the marked cards the proportion of court-cards is other than it is in the whole pack. Hence all we can say is, that in certain cases we may by multiplying information reach a point, after which it is very improbable that farther information will be such as to change our probability considerably, until we reach the factor making it 0 or 1.

One important point must, however, be raised in connection with all the arguments considered so far. It cannot be said, namely, without self-contradiction, that each additional (relevant) piece of knowledge makes the probability nearer to some ultimate value, or that it is probable that it is so. Because, as " being nearer " is a transitive relation, we incur a contradiction if one piece of knowledge changes the probability in one direction and an additional piece in another. We cannot say even that after each additional piece there is a bigger probability that our probability is nearer the ultimate value. Because it would lead to contradiction if one piece of knowledge changed our probability and an additional piece brought it to the first value again. All that we can say without self-contradiction is that in each case it is probable *relatively* to a knowledge containing the *additional knowledge* that the probability calculated in relation to it is nearer to the ultimate probability than the probability calculated in relation to a knowledge not containing the additional knowledge, or that it is more probable relatively to the bigger knowledge that the probability calculated in relation to it differs by less than m from the ultimate value, than it is probable relatively to the smaller knowledge that the probability calculated in relation to it differs by less than m from the ultimate value.

(We cannot say that $\left|\frac{\text{X is B}}{\text{X is AC}} - \text{U}\right| < \left|\frac{\text{X is B}}{\text{X is A}} - \text{U}\right|$

for every C, where U is the ultimate probability, because if, *e.g.*,

$$\frac{\text{X is B}}{\text{X is AD}} > \frac{\text{X is B}}{\text{X is A}}$$

and

$$\frac{\text{X is B}}{\text{X is ADE}} < \frac{\text{X is B}}{\text{X is A}}$$

we have a contradiction ; we also cannot say that it is probable that it is so, for the same reason ; and we cannot say that, for

every C, $\left|\frac{\text{X is B}}{\text{X is AC}} - \text{U}\right| < m/d > \left|\frac{\text{X is B}}{\text{X is A}} - \text{U}\right| < m/d$

because we have a contradiction if

$$\text{X is B}\Big/\text{X is ACD} = \text{X is B}\Big/\text{X is A}.$$

But we can say, that for every C

$$\left|\text{X is B}\Big/\text{X is AC} - \text{U}\right| < \left|\text{X is B}\Big/\text{X is A} - \text{U}\right|\Big/\text{X is AC}$$

is very big, or that for every C

$$\left|\text{X is B}\Big/\text{X is AC} - \text{U}\right| < m\Big/\text{X is AC} > \left|\text{X is B}\Big/\text{X is A} - \text{U}\right| < m\Big/\text{X is A}\Big)$$

3. Another answer may be tried for our second problem on the lines of some theorems of the theory of probability connected with distinctions first given by W. Lexis. Namely: Suppose we have a series of μ series containing each n cases of certain conditions in which a certain event, say that X is B, may arise or not (X may be B or non-B). Let us farther distinguish three situations: (α) the probability of the event is the same in all the $\mu \,.\, n$ cases, say p; (β) the probability of the event changes inside each series of n cases, but in such a way that the average probability, p, is the same in each of these series; it is, *e.g.*,

in n_{i1} among the n cases in the ith of the μ series p_{i1}
in n_{i2} ,, ,, ,, ,, ,, ,, p_{i2}
. . . . . .
in n_{is} ,, ,, ,, ,, ,, ,, $p_{is}\Big(\sum_{l=1}^{s} n_{il} = n\Big)$,

where $p_{ij} \neq p_{ik}$ for some $j \neq k$, and $\dfrac{\sum_{l=1}^{s} n_{il} p_{il}}{n} = p$; ($\gamma$) the probability of our event is the same inside each series of n cases, but changes non-regularly for each series of n cases,[10] *i.e.*, it is, *e.g.*,

for the first series of n cases $p_{(1)}$
,, ,, second ,, ,, $p_{(2)}$
. . . . . .
,, ,, μth ,, ,, $p_{(\mu)}$,

[10] *E.g.*, if the event is the drawing of a white ball from an urn, and the urn, from which we draw in n cases, is determined after each n drawings by the drawing of a lot.

where $p_{(i)} \neq p_{(j)}$ for some $i \neq j$ and $\frac{\sum_{i=1}^{s} p_{(i)}}{\mu} = p$. The theorems in question state that the Standard Deviation from the most probable frequency, *i.e.*, from p,[11] is smallest in the case (β), biggest in (γ) and between the smallest and the biggest in (α) and hence we might expect the biggest—an Overnormal-Dispersion [12]—in the case (γ), the smallest—a Subnormal—in the case (β), and between the smallest and the biggest—a Normal—in the case (α).

Now we might try to apply these statements to our problem, hoping to show, that in cases of closer description we may expect with bigger probability comparatively small dispersions (inside a certain class of considered events) from the obtained probabilities. Take, for instance, a class of m objects and let us first describe all the objects in one way, say as A, and ask for the probability that an object is B, relatively to that description. Suppose the probability $= p$. Now suppose we know in m_1 of all the cases a more particular description, say AC, which gives to our event the probability p_1; in m_2 cases a description AD giving the probability $= p_2$, . . . in m_l cases $\left(\sum_{i=1}^{l} m_i = m\right)$ the description AF giving the probability $= p_l$, where the probabilities $p_1, p_2 \ldots p_l$ are not all equal. Now, first of all, it is not certain that Lexis would call this last case a case where probabilities are changing. It is difficult for me to understand what mathematicians mean by saying that a probability has changed; because it is *always* changing, as a matter of fact, since in some cases (fully described) it is 1 and in others 0, on the assumption of determinism. One of the possible interpretations may be, as it seems to me, the following: the probability has been changing if there is *no* description which is both true for all the cases and

[11] The (St. Dev.)$^2 = \frac{\sum_{i=1}^{\mu}\sum_{k=0}^{n} \pi_{ik}(fr_{ik} - p)^2}{\mu}$, where π_{ik} is the probability of a frequency fr_{ik} in the ith (from the μ) series.

[12] The (Disp.)$^2 = \frac{\sum_{i=1}^{\mu}(fr_i - p)^2}{\mu}$, where fr_i is the realised frequency in the ith (from the μ) series.

also gives to the event a certain definite probability.[13] On this interpretation our case is not a case of changing probabilities, because we are assuming in it that there is the description A for all the cases, which gives a definite probability equal to p. But also on the assumption that the above theorems do apply to our case,[14] it would entitle us to expect a Subnormal Dispersion according to the above theorems only if the changes in probability occurred within some μ series of n cases ($m = n \,.\, \mu$) with the same average probability; which in our case of multiplying knowledge is not necessarily fulfilled. Furthermore we could on the ground of the above theorems only expect smaller dispersions from the *average* probability $\frac{\sum_{i=1}^{l} m_i p_i}{m}$ and not from the particular ones $p_1, p_2, \ldots p_l$. And also the true deviations, amongst others the whole deviation in the m cases from p, must, in our situation, remain unchanged.

4. I pass now to the answer to our second question, which seems to me the most satisfactory. In order to give this answer I must first consider the question :—

How do we take account of probabilities in particular cases ? [15]

In a considerable number of cases in ordinary life we take account of them by considering the amount of something which could be said to be a mathematical expectation. This is quite obvious in the case of gambling, *e.g.*, if we have to choose between two tickets costing a_1 and a_2 shillings respectively for two lotteries, giving us a probability p for a win of b_1 and b_2 shillings respectively,[16] we shall, in normal conditions,[17] prefer to buy the

[13] It might be said that there is always such a description. *E.g.*, in the examples usually given in connection with the distinctions of Lexis as examples of a changing probability, where we are drawing a ball in some cases from an urn containing white balls in one proportion and in other cases from an urn containing them in another proportion, we might say that there is a common description, namely "drawn from an urn." But this description would be said, as I imagine, by those who cite this example, to give no definite probability to our event.

[14] *Cf.* L. v. Bortkiewitsch, *Kritische Betrachtungen zur theoretischen Statistik*, Jhr. f. Nationalök. u. Statistik, 1894.

[15] I am greatly indebted for clearness on this question to an unpublished paper by Mr. F. P. Ramsey on Truth and Probability which the kindness of Mr. Braithwaite has enabled me to read. I had, however, previously thought independently on similar lines.

[16] The examples given are examples of very simple situations where there is only one fact (and its negation) whose probability we take into consideration; and, moreover, the probability of this fact is the same for both decisions. Such situations occur very seldom in ordinary life, but they alone are considered, to simplify our case.

[17] *I.e.*, when the cost of one ticket is not too big and when we are taking the question seriously.

first or the second ticket according to whether

$$p(b_1 - a_1) - (1 - p)a_1 = pb_1 - a_1$$

is bigger or smaller than $p(b_2 - a_2) - (1 - p)a_2 = pb_2 - a_2$, or, in other words, according to whether $p(b_1 - b_2) + (a_2 - a_1)$ is bigger or smaller than 0. Let us give the following example from ordinary life: A photographer has to decide whether to go or not, to-morrow, Sunday, to a country town to take some photographs. The photos can be taken only if the weather is fine. Whether he will decide to go or not will not only depend on the probability of fine weather,[18] but also on the gain he may get by going if it is fine and the loss if it rains. The gain depends on the value of the proposed photos, on whether he is leaving the country altogether next week or is staying longer, and so on; but also on what he could do at home if he did not go, *e.g.*, whether he could take photos at home, if the weather were fine, and develop films if it rained. In other words, he will consider the good he will get by going if it is fine and if it is not fine, on the one side, and the good he will get by not going on the other, and the corresponding probabilities—the whole taken together in the form of a difference of mathematical expectations.[15]—I could not prove that we always take probabilities into consideration in this way; but in a considerable number of cases we do, and I shall speak only about these cases.

Now the question arises, whether to take account of mathematical expectations is a good way of taking account of probabilities. We might accept it as an axiom that it is. But if we require an explanation why it is, the only answer I can see is, that it is a good way if frequencies approximate to probabilities; because, if this is so, it is easy to see that by choosing the greatest mathematical expectation we get—by the realisation of the frequency—the greatest amount of good.

If we accept this explanation we must withdraw the objection urged against the frequentists on p. 24 in connection with their answer to the first question there mentioned. On the assumption that we take account of mathematical expectations when we take account of probabilities we see also why we are all right (see p. 24) if frequencies approximate to probabilities.

Suppose now we have two men betting on card-drawing. For the sake of simplicity let us suppose again that the pack contains 24 playing cards (*i.e.*, contains 9, 10, and ace alone of the

[18] In any case he need not *believe with certainty* that it will be fine in order to go; he may go and, *e.g.*, take an umbrella.

non-court cards). Mr. A. draws a card and puts it with its face downwards on the table without seeing it. He bets a shillings that it is not a court-card, and his opponent, Mr. B., bets a shillings that it is. Then they look at the card, put it back in the pack and shuffle carefully. If both of them know only in each case that the probability that the drawn card is a court-card is $\frac{1}{2}$, the game is fair and both of them act reasonably. But suppose now that some of the cards are marked on the back and that Mr. B. recognises very well in each case whether a card is or is not marked. He knows, moreover, that amongst the marked cards only 1/3 are court cards. What will now be reasonable for Mr. B. is no longer to bet a shillings, in each case, that the card drawn is a court-card, but to stake in some cases for a court-card, in others for a non-court, and to raise the stakes as much as possible. Mr. A. has no reason to be against this change of preference on the part of his opponent until he notices that Mr. B. has knowledge about the cards which he himself does not possess; but once he is aware of this he will refuse to play with him any more on these terms, if not on moral grounds, then at least because on these terms his opponent has an advantage over him. In what now does the advantage of Mr. B. consist? It is easy to answer. If the frequency approximates to the probability, say—for the sake of simplicity—is equal to it, then in, *e.g.*, 24 drawings Mr. B. would win, in the first situation, just as much as his adversary. Suppose now that there have been 12 cases of marked cards and 12 of non-marked (*i.e.*, that the probability of a card being marked $= \frac{1}{2}$). Then, in the second situation, Mr. B., staking in the marked cases for a non-court card, wins in them $8a$ shillings while his adversary wins only $4a$ shillings; and in the 12 non-marked cases, staking for a court-card, he wins another $8a$ shillings, while his adversary again wins only $4a$ shillings; so that altogether Mr. B. wins $8a$ shillings more than his adversary.[19]

Now there remains only one step to answer the question generally. This step consists in admitting that Nature is not, like Mr. A, a cunning being, who will refuse to play with us any more when his situation gets worse than ours. We can sometimes exploit Nature in the above way; and not to admit this would be to maintain an extreme pessimism.

[19] In the case of an ordinary pack of 52 playing cards, if the number of court-cards amongst the marked ones is, *e.g.*, 1/5, and amongst the non-marked 1/4, Mr. B., acting similarly, would win $16a$ shillings more than his adversary. The possible stakes would be here $3a$ shillings for a non-court card and $10a$ shillings for a court-card.

So let us assume that we may have a situation like the following presented by Nature :—

We have to choose between: getting the amount k_1 of good, if an event e (say, that a particular A is B) occurs, and the amount l_1 of good if the event e does not occur, that is to say, if that particular A is not B,

$$\text{or } k_2 \text{ if } e \text{ and } l_2 \text{ if } \bar{e} \text{ (non-}e\text{)}$$
$$\cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot$$
$$\text{or } k_t \text{ if } e \text{ and } l_t \text{ if } \bar{e}.$$

Suppose we have to choose between the same alternatives in n cases in which the event e may occur, that is to say, in which A may be B. Now, if (α) we know in each of the n cases only one general description of this event, say A, to which we refer its probability, which is say, m/n, then we shall choose in each of the n cases the same alternative, say, k_t if e and l_t if $\bar{e}$, for which $k_t\frac{m}{n} + l_t\left(1 - \frac{m}{n}\right)$ is the maximum. If, however, (β) we consider in the n cases another factor, say a character C in each case of A, and have in n_1 of the n cases a closer description of the event, say AC_1, giving the probability $\frac{m_1}{n_1}$; in n_2 of the n cases a closer description of the event, say AC_2, giving the probability $\frac{m_2}{n_2}$; . . . in n_s of the n cases a closer description of the event, say AC_s, giving the probability $\frac{m_s}{n_s}$, where C_1, C_2, . . . C_s are determinates of the determinable C, and so of course $\sum_{j=1}^{s} n_j = n$, then we shall in each case choose that k_j and that l_j which give the biggest mathematical expectation for the *particular* probabilities. Thus, *e.g.*, we shall choose

in the n_1 cases, where the probability $= \frac{m_1}{n_1}$, say k_1 if e and l_1 if $\bar{e}$

,, ,, n_2 ,, ,, ,, ,, $= \frac{m_2}{n_2}$,, k_2 ,, ,, l_2 ,,

. . . . . .

,, ,, n_s ,, ,, ,, ,, $= \frac{m_s}{n_s}$,, k_s ,, ,, l_s ,,

Now, if the frequencies are the same as the probabilities, we shall have in (α) as the whole gain $G_\alpha = k_t m + l_t(n - m)$; but

in (β) we shall have $G_\beta = \sum_{j=1}^{s} [k_j m_j + l_j(n_j - m_j)]$. Now we can consider G_α as $\sum_{j=1}^{s} [k_t m_j + l_t(n_j - m_j)]$ and it is easy to see that $G_\beta \geqslant G_\alpha$, because each component of the G_β sum is $\geqslant$ the corresponding one in the G_α sum, since we chose so as to have the maximum and had as one of the possible choices that with k_t and l_t. If then $k_j \neq k_t$ (and then of course $l_j \neq l_t$) for at least one j ($j = 1, 2 \ldots s$), then $G_\beta > G_\alpha$.[20]

This case is a comparatively simple one, where we have in all n cases the same alternatives to choose from. We could try to justify our desire for closer descriptions in other more complicated cases in a similar way.

The assumption which underlay the above reasoning was that in the n cases frequencies are equal to probabilities. Hence a sufficient condition for gaining by taking account of closer descriptions is in the above case [21]: 1° that we should take account of mathematical expectations; 2° that we should continue to do this until frequencies become equal to probabilities.

It might be objected to the above answer that, on the assumption of frequencies being equal to probabilities, it is not necessary to take gains and mathematical expectations into consideration in order to show that it is better to base probability on more data. It might, namely, be maintained that our taking account of probabilities consists in foreseeing frequencies, and this opinion might be supported by examples from statistical investigations. Thus, in taking account of the probabilities of a thing being B relatively *e.g.* to its descriptions AC_1, AC_2, . . . AC_s, we foresee frequencies of B in the classes AC_1, AC_2, . . . AC_s, *i.e.*, in a greater number of classes than in taking account only of the probability of a thing being B in relation to its description A, where we foresee only the frequency of B in the class A and do not foresee it in A's subclasses. That is quite true, but it applies only to taking account of probabilities with respect to a *group of cases;* it says namely that (α) knowing which cases of A are cases of AC_1, AC_2, . . . AC_s, and (β) knowing the probabilities of being B in relation to being AC_1, AC_2, . . . AC_s, we know (on the assumption that we suppose frequencies equal to probabilities and that they are such in fact) more true frequencies

[20] On the assumption that we do not choose an option different from k_t if e and l_t if non-e, if it does not give a greater mathematical expectation.

[21] Containing the condition $k_j \neq k_t$ for at least one j.

in the group of A, than in the case where (α) or (β) is not fulfilled. But this answer does not say anything about taking account of probabilities with respect to *particular cases*, where our procedure consists, I think, in adjusting our action so as to have the biggest mathematical expectation. This behaviour may be just a consequence of foreseeing frequencies. We must, however, emphasise the following circumstance: If we took for granted that the best way of acting in different cases is to act so as to make the *sum* of mathematical expectations as big as possible (without trying to explain this rule by assuming frequencies to be equal to probabilities), then we could show that we act in a better way, if we take account, in particular cases, of probabilities relative to more data, without assuming *all* frequencies to be equal to probabilities in the considered group of cases. It is then sufficient to assume only that frequencies of cases with different descriptions are equal to their probabilities; *i.e.* (keeping the notation of p. 33), it is sufficient that AC_j occurs in n_j of n cases of A $\left(\text{its probability being } \frac{n_j}{n}\right)$ for $j = 1, 2, \ldots s$. We have then in the case (α) of p. 33 the sum of mathematical expectations $S_\alpha = n\left[k_t\frac{m}{n} + l_t\left(1 - \frac{m}{n}\right)\right]$, in the case ($\beta$) of p. 33,

$$S_\beta = \sum_{j=1}^{s} n_j\left[k_j\frac{m_j}{n_j} + l_j\left(1 - \frac{m_j}{n_j}\right)\right].$$

But

$$S_\alpha = n\left[k_t\frac{m}{n} + l_t\left(1 - \frac{m}{n}\right)\right] = n\left[k_t\sum_{j=1}^{s}\frac{n_j}{n}\frac{m_j}{n_j} + l_t\sum_{j=1}^{s}\frac{n_j}{n}\left(1 - \frac{m_j}{n_j}\right)\right]$$

$$= \sum_{j=1}^{s} n_j\left[k_t\frac{m_j}{n_j} + l_t\left(1 - \frac{m_j}{n_j}\right)\right];$$

and $$k_t\frac{m_j}{n_j} + l_t\left(1 - \frac{m_j}{n_j}\right) \leqslant k_j\frac{m_j}{n_j} + l_j\left(1 - \frac{m_j}{n_j}\right)$$

(for $j = 1, 2, \ldots s$), for the same reason as given in the previous proof concerning gains. And so $S_\alpha \leqslant S_\beta$, and $S_\alpha < S_\beta$, if $k_j \neq k_t$ for at least one $j (j = 1, 2, \ldots s)$.[22]

It seems, however, that in opposition to the above "pure frequency" answer, the answer to our second question which

[22] On the assumption mentioned in n. 20.

this paper gives, *i.e.*, taking gains or mathematical expectations into consideration, could be considered as an epistemological answer only from a pragmatistic point of view.

We can see, on the lines of our answer, why an additional piece of knowledge of which *part* is relevant and which as a whole, does not change the probability, is nevertheless important—changes the weight of argument, as Mr. Keynes would say.[23] If, namely, the probability of a thing being B relatively to its description A is p_A and relatively to its description AC is $p_{AC} \neq p_A$, then, even though the probability relatively to a still closer description ACD may be again p_A, we nevertheless gain by taking into account also the character D in the case of things which are AC. Because, in the cases where we find AC *without* D, that is in the cases ACD', the probability of our event will no longer be equal to p_A, but: $p_{ACD'} > p_{AC}$, if $p_{ACD} < p_{AC}$, that is if $p_{AC} > p_A$, and conversely. And cases of ACD' must occur if our second assumption on p. 34 is fulfilled. Thus our answer escapes the contradictions which were incurred by some previous answers (see p. 27). We see here also that although additional knowledge of a character may make the probability *farther* from its ultimate value, whether 0 or 1, additional knowledge of the *absence* of this character must make it *nearer*. Finally we see why additional knowledge is not important if no part of it changes our probability.

[23] See above, note 3, p. 24.

III.—FACULTIES AND INSTINCTS.

By C. A. Mace.

Explanations of the experiences and the behaviour of men and the lower animals by reference to a system of dispositions called the 'instincts' have enjoyed a considerable vogue in recent years. The enjoyment, however, has been more than a little disturbed by a group of critics who would convict the whole procedure of fundamental error.

The kind of criticism I have in mind ranges from the comparatively mild strictures of Prof. Field in his article on 'Faculty Psychology and Instinct Psychology',[1] to Dr. Broad's unqualified assertion that psychologists of the Instinct school have accomplished nothing 'except to revive the faculty-psychology in an extreme form and with an amusingly pretentious parade of "science".'[2]

The purpose of this article is to suggest some of the qualifications which seem to be required in statements of this kind.

It will be granted that an instinct is a sort of faculty, but it will be suggested that we can employ the concept of an instinct as a sort of faculty without being guilty of the distinctive blunder of the faculty-psychologists. An attempt will also be made to define the sense in which we may say that the system of instincts provides a genuine and perfectly scientific explanation of human and animal behaviour. Finally some suggestions will be made as to the lines along which this kind of explanation admits of refinement and elaboration.

It is worth while to begin by an endeavour to define with more precision than is usual the exact nature of the distinctive fallacy of the faculty-psychology. We may first of all explicitly ignore some of the less fundamental grounds of criticism.

It is sometimes said, for example, that the 'faculty' must be rejected from scientific Psychology because it is an unobserved and unobservable entity. This however is a consideration of very little weight. Unobserved and unobservable entities play

[1] Mind, 1921. [2] *Mind and its Place in Nature*, p. 389.

an honourable part in all sciences. The description would apply to a coefficient of expansion, to a Mendelian unit character, to an electron and to many of the cause factors which are 'postulated' to explain observed facts.

It is not sufficient to reply that the latter, whilst themselves literally unobservable, are derived by a legitimate logical process from observable data, since the faculty-psychologist would make the same claim for the faculty. No one ever suggested that faculties are known *a priori*. They are admittedly derivative.

A second of the less fundamental lines of criticism arises from the fact that performances which are supposed to spring from the same faculty are independently variable. Memory for faces may be good and memory for names poor. Such facts, however, so far from constituting an objection to the conception of a faculty would in fact increase their number. They would modify our classification of the faculties without affecting the validity of the concept as such.

In order to formulate the more fundamental objections, it is necessary to consider the procedure by which a 'faculty' is derived from the data of common experience or of scientific observation.

We commence, I take it, by noting repeated instances of some kind of performance such as acts of recall or exhibitions of some specific form of skill.

Upon the data so obtained it is possible to perform certain formal or semi-formal operations such as, for example, the derivation of what is called a "class concept". That is to say having observed Tom, Dick and Harry recall respectively a poem, a telephone number and an appointment, we can conceive a class of events which we designate 'acts of memory'. Similarly if Tom successively recalls a poem, a telephone number and an appointment, we can derive a more restricted class concept, *viz.*, that of Tom's acts of memory. Now it is permissible for certain purposes to identify Tom's memory with this class of events.

It is from this identification that the distinctive fallacy of the faculty-psychology is sometimes said to arise. For we may proceed to explain a fresh act of recall on Tom's part merely by "referring" it to his memory. That is to say if asked why Tom can recall a certain long poem, we say because he has such a good memory—*i.e.*, because he recalls many long things, such as other long poems, long lists of dates and long series of numbers. The fallacy is, of course, crude; but there are many considerations which help to explain why the human mind is

so prone to it.[1] It would appear that the blunder has not been finally scotched. For the " class concept " is not the only entity which may play the part of a faculty. There is in fact a whole series of formal derivatives[2] to be extracted from the data of empirical observation, each of which may provide the basis of an analogous fallacy. Some of these appear in other usages of the term faculty, some in connection with contemporary doctrines such as theories of the abilities, theories of instinct, theories of the mind or self and the theory of mental dispositions.

It may therefore be worth while to consider as a general question of scientific methodology what happens when we pass from judgments which merely embody our observations to judgments involving such formal derivatives. These derivatives fall into three main groups.

Assuming that we start from the observation that something has a certain property, there is in the first place the process noted above by which we proceed to assert that it is a member of a certain class.

Closely connected with this is the process by which the common property of members of this class comes to be apprehended as what Mr. W. E. Johnson calls a quasi-substantive. This is exhibited in the transformation effected in passing from the judgment: *This action is virtuous* to *This action has virtue in it*, or from *His face blanched* to *The colour left his face.*

It is easy to see how the derivation of a quasi-substantive facilitates fallacious explanations. On the basis of the observation of an honest action on the part of Mr. Baldwin, we may proceed to speak of ' Mr. Baldwin's honesty '. The fallacy of explaining later actions of Mr. Baldwin by reference to his honesty is a second form of the fallacy of the faculty-psychology analogous to the explanation of the fall of a stone by reference to gravitation or the influence of opium by reference to its soporific properties.

It is perhaps worthy of notice, in passing, that this type of transformation is particularly likely to occur when what is ob-

[1] It may be doubted whether anyone ever does use the term memory for such a class of mental events. Certainly those who are in fact guilty of the cruder form of the fallacy of the faculty-psychology do not have this class unambiguously in mind. It is, however, quite possibly one of the constituents of the confused notion that is present to the mind. The difficulty arises in the analysis of any fallacious process of thought, since, when thought is fallacious, it is also in general confused.

[2] In what follows I shall describe simply as a ' formal derivative ' anything derived by means of what I have called above a formal or semi-formal operation. *Cf. infra,* footnote, p. 43.

served is a change from a state of affairs in which one determinate property is manifested to one in which another determinate under the same determinable is present.

Thus: '*This piece of paper was red yesterday, it is now blue*' naturally becomes '*The colour of this paper has changed from red to blue*'.

Similarly in observing changes in the ways in which a philanthropist disposes of his wealth, we might remark that his generosity is becoming more pronounced and less ostentatious. In all such cases the quasi-substantive takes on something of the appearance of a continuant which undergoes alteration of state.

A certain analogy is presented in the case in which we observe that a boy of ten years can repeat a list of seven items after a single reading, and that at twelve he can repeat a list of eight items. This we may express by saying that his memory is developing; but cases of this kind are more simply explained by formal derivatives of a type still to be considered.

There is a third type of formal derivative within this first group which arises when what is observed is an event rather than the fact that something has a certain property. In this case we may derive the conception of a continuant in which the events are supposed in some way to inhere.

For example: Observing a flash of light followed by an explosion suitably located, we may describe the matter simply as "*There was a flash and then a detonation*". But it is quite likely that we shall describe the sequence of events thus: "*It flared up and then it exploded*". We can effect this transformation simply on the basis of what was observed without independent knowledge of what "it" was.

It is possible that in many cases we have quite correctly derived a genuine continuant substantival thing, to which the events in question are to be referred.

But there are cases such as the following: We observe a shower and then sunshine and proceed to assert "*It rained and then it was fine*". Here we have derived by the same formal process a new and peculiar entity, a thing that apparently can sometimes rain and at other times shine.

If the entity which we called Mr. Baldwin's honesty is a quasi-substantive, this new entity must I think be called a pseudo-substantive.

It is plausible to suppose that this is one of the processes by which the conception of a faculty has been reached. Starting from memory events, and restricting ourselves to memory events, we derive an "it" which retains or at least is manifested only

in acts of memory. Starting from acts of imagination, and restricting ourselves to these, we derive an " it " which is manifested in the occurrence of novel mental pictures. Thus are derived the faculties of memory, imagination and so forth. In this case the doctrine of the faculties is open to criticism on various grounds. It may roundly be denied that there is ever any genuine continuant to which mental events are to be referred in the way in which explosions are to be referred to explosives. A faculty it may be said is a pseudo-substantive, like the " it " of " it rains ". Or it may be said, and this is a commoner view, that the mistake lies in referring similar mental events to the same continuant and different sorts of events to different continuants. There is, it is often said, one and only one genuine continuant to be derived from observation of the occurrences that make up the mental life of an individual. This is the " I " that perceives, remembers, imagines and wills, etc.

It is not necessary to the present argument to discuss whether either of these views is in fact true. It is sufficient to note that neither a faculty nor a self, whether it be a pseudo-continuant or a genuine continuant, can in and by itself *explain* any occurrence whatever. We do not explain an act of memory either by reference to something which specifically remembers or by reference to a self remembering.

Formal derivatives within the second group may be illustrated by reference to abilities, capacities and tendencies.

Proceeding again from the observation that X performs an act of recall we may without further empirical data assert that he has the ability or capacity to perform this sort of act. This yields another sense of the term faculty. That is to say the assertion *X has the faculty of memory* is equivalent to *X has a capacity for remembering* which again is equivalent to *X is able to remember* or *X can remember*. In this there is of course no fallacy. Fallacy is only involved if we try to employ the fact that X has the ability or faculty to *explain* what he actually does.

The derivation of a tendency is fundamentally similar but somewhat more elaborate.

The assertion that X can do so and so is only important when ' so and so ' expresses a limit to a series of performances which differ in some quantitative way. Thus if the ten years' old boy can remember anything up to a set of seven items, we define his ability by reference to this limit. We do not often have occasion to refer to his ability to reproduce three or four items.

It is important to know, however, not only the limiting value

of such a series but also the frequency of the different values that occur. If these are distributed in a normal way the important value is that which corresponds with the *mean*. We then say that he has a *tendency* to perform the act described by this value. If the values are distributed so irregularly as to yield say three distinct *modes*, we should say that there are three distinct tendencies in his performances. This is particularly likely to occur when the members of the series not merely differ in a quantitative way but consist, as is commonly the case, in a set of alternative kinds of response to a given situation. A tendency in this sense is one of the formal derivatives employed in the description of instinctive behaviour.

Again if we attempt to explain actual behaviour by reference to a tendency of this type we are guilty of fallacy.

A new issue arises in formal derivatives of the third type.

Once more, starting from the observation of instances of some specific kind of activity, we may proceed to derive the conception of a cause or cause factor determining this behaviour. This we do in accordance with a general scientific postulate that under certain conditions similar events have similar causes. Under certain other conditions we proceed further and derive the conception of a persistent or continuant cause factor. Similarly, in virtue of a general postulate to the effect that all physiological and psychical occurrences determine persistent traces, we could derive from the observation of an occurrence of this kind a derivative definable as ' the trace of so and so '.

Whilst I should not consider this a proper usage of the term faculty, I am inclined to suspect that some writers have thought of the faculty in this way, *i.e.*, not as an ability but as a cause of ability. This is at any rate implied in the use of the kindred notion (also a derivative of this third type) of a " mental disposition ". It is also involved I think in McDougall's conception of a " structural psychological fact ".

Now let us grant the assumption that there is a cause, and in some cases a continuant cause factor, connected with certain types of behaviour, and let us further suppose that a psychologist is using the term faculty or disposition so as to mean by it the cause of the behaviour he is considering—What, if any, is the fallacy involved in explaining the conduct in question by reference to the faculty or disposition ? Clearly he is not saying anything false as he is if he assigns any of the simpler derivatives as the cause of the behaviour. The faculty *is* the cause of the behaviour—by definition. But it is precisely this which constitutes it a fallacy, though a fallacy of a new kind.

The explanation here is a tautology whereas the other explanations were definitely erroneous. The matter may be put in another way. If it is asked: What is the cause of X remembering poems so well? the question presupposes the belief that there is a cause, so to assert that the faculty (*i.e.*, the cause) causes it conveys no information. The inquiry is equivalent to: What other characteristic has the cause of his remembering the poem? Can we identify the cause of this with anything else? To this question no answer is given by reference to the faculty.

In enumerating the foregoing formal derivatives from the data of observation, I am not concerned with the exposure of faculty-psychology. This is a matter of merely historical interest, if of that. The matter is one of general principle with, it would seem. contemporary applications.

What is common to all the fallacies to which I have referred is the attempt to explain observed facts by reference to some formal derivative of the facts in question. And I think we are justified in generalising to the effect that nothing is ever explained by reference to its formal derivatives.[1] The contemporary interest of the principle may be illustrated by reference

[1] In the text I have relied upon exemplification rather than definition to convey what I mean by "formal derivation". An approximation to definition may be provided by the statement that Y is formally derivative from X if from a statement expressing some observation with regard to X we can proceed to a statement concerning Y independently of any further data from the empirical science in which the observation concerning X was made, or, for that matter, any empirical science whatever. It is assumed, of course, that logic, 'methodology,' mathematics and statistical theory are non-empirical sciences. In the simplest cases derivation is effected in accordance with concepts and operations which fall within the scope of pure Logic. Thus from the observation that an animal is a vertebrate we may proceed independently of fresh biological data to the assertion that it is not an invertebrate. The latter assertion involves a thought construct (in Mr. Johnson's sense) containing a constituent not present in the original observation. When, on the other hand, we pass from a statement concerning X to another concerning 'the cause of X' the new thought construct is not derived by any operation comprised within the scope of formal logic. On the other hand it is not dependent upon any further empirical data from the science concerned with the investigation of the properties of X. It depends in this case upon some principle presumed to have been established by Logic in the broader sense in which that study is concerned with the theory of 'scientific method'. 'The cause of X' is a formal derivative of X in a way in which 'the father of X' is not. The latter is in some sense a derivative of X, but it is derivative only in virtue of certain further empirical observations to the effect that things like X sometimes have fathers. This dependence on further empirical data, essentially involved in explanation, is precisely what is excluded from the conception of formal derivation.

to the somewhat puzzling distinction drawn by McDougall between " structural " and " functional " psychological facts.[1] This bears upon his theory of the instincts, since an instinct is one of his most commonly employed examples of a structural psychological fact.

What McDougall means by a structural fact would seem to be always one or other of the possible formal derivatives of his functional facts. And his functional facts always relate to observable mental events or their expressions in behaviour. The question is : Has this distinction led him into any violation of the principle I have suggested and is the fallacy necessarily involved in his doctrine ?

It must be admitted, I think, that McDougall uses language which suggests that he has endeavoured to employ ' structural facts ' for the purpose of explaining the facts from which they are derived. This is suggested by the analogy he draws between the structural features of the mind and the structural elements in a piece of clockwork. This error is to some extent qualified by another, *viz.*, the comparison of a structural feature of the mind with the structure of a poem. In point of fact a structural fact, in the sense of a formal derivative, is quite distinct from both.

An error of the same type as that which is characteristic of the faculty-psychology also seems to be involved in the definition of an instinct as a disposition which determines its possessor to do this, that and the other. The question turns on whether this is intended as an explanation. It is clear that the food-seeking instinct does not determine us to eat kippers in the sense in which a deficiency in the salt concentration of the blood does, and that the reference to salt concentration explains the consumption of kippers in a way in which reference to the food-seeking instinct does not.

The important question, however, is not whether McDougall has fallen into the trap, but whether the trap can be avoided ?

At first sight the principle enunciated above, that functional facts cannot be explained by their structural derivatives, might appear to involve a paradoxical consequence with regard to the whole theory of mental dispositions. The disposition to X is a formal derivative from X. Moreover the whole *raison d'être* of a disposition lies in the fact that it is required to explain the observed facts. We thus appear to be led to the strange conclusion that the concept of a disposition must not be employed for the purpose for which it was expressly intended.

[1] *Outline of Psychology*, p. 41.

The paradox is removed, however, by the recognition that it is only in so far as the dispositional cause of X is known simply as the 'cause of X' that it cannot be employed to explain X. But that is no reason why it should not be employed to explain Y. In the same way a disposition derivative from Y can be employed to explain X. This actually happens in the typical case in which the concept of a disposition is involved. When Y is an act of recall the dispositional cause of Y is identified with a dispositional effect of X where X is a perception. No fallacy is involved because the dispositional effect of X is not a formal derivative of Y.

It would seem, generally, that no fallacy is involved in a dispositional explanation of X if we can identify the disposition to X in some other way than as simply 'the disposition to X'. Does McDougall's theory conform to this requirement?

McDougall defines an instinct as a "disposition which determines its possessor to perceive and pay attention to objects of a certain class, to experience an emotional excitement of a particular quality upon perceiving such an object, and to act in regard to it in a particular manner, or at least to experience an impulse to such action". This clearly involves an identification of the required kind.

Were it simply a matter of explaining pugnacious activity as due to the disposition to fight, the doctrine would be beyond defence. What gives significance to the assertion that fighting is due to the instinct of pugnacity is the fact that the dispositional cause of fighting is identified with the dispositional cause of a specific kind of emotional excitement and with the dispositional cause of a specific kind of perceptual experience.

If we inquire how such identification is possible we find, of course, that it depends upon observed relations between the events from which the dispositions are derived. Here, then, is one all-important feature in McDougall's doctrine of the instincts which raises it clearly above the ineptitudes of the faculty-psychology. The definition of a specific instinct involves an approximate formulation of a set of psycho-physical uniformities, inductively ascertained, each of which is of the form:

If $S\alpha$ then ($P\alpha$ . . . $E\alpha$ . . . $I\alpha$) and $R\alpha$—where the terms stand for constants, a specific kind of stimulus, specific perceptual, emotive and impulsive experiences (the mental occurrences are bracketted) and some specific form of response.

Now there is a perfectly definite sense in which such a uniformity can be explanatory without reference to dispositions at all. There is an accepted scientific sense in which an event is

said to be explained by being related to its antecedents or in being exhibited as occurring in conformity with a law. It is in this sense that we may significantly refer X's frequent attendance at the Opera to mere 'gregariousness'. The explanation implies that the action is in general consequent upon a certain stimulus followed by a specific emotive experience connected more particularly with the perception or thought of a crowd. Y's attendance on the other hand, though equally regular, may require a different explanation. His interest, for example, may be connected with the music.

The explanation may without change of principle be expressed in terms of dispositions. What we cannot do without fallacy is to define the instinct in terms of the whole uniformity and then endeavour to explain the complex sequence of perception, emotion, impulse and overt act by reference to a disposition to a sequence of this kind. In other words, so long as we restrict ourselves to some particular phase of an instinctive process, we can explain it by reference to its antecedents or by reference to a disposition derived from these antecedents. This is in fact how the conception of an instinct is generally employed. It is the instinctive action which is said to be explained.

Whilst the foregoing argument provides, I trust, a theoretically valid defence of the concept of an instinct as an explanatory principle, something more is required to establish the practical utility of the concept.

To exhibit its utility I would suggest a reformulation of the doctrine. In the first place I think it would be widely agreed that McDougall's use of the term 'instinct' is unfortunate. It may be admitted that the dispositions which he calls 'instincts' certainly exist. But the word is required for an immense variety of specific tendencies which his formulæ fail to cover. I should therefore favour a revival of a term which has been unnecessarily discarded from our psychological vocabulary. His instincts might be described as the fundamental *propensities*.[1]

In the second place, I should prefer to formulate the facts, as already suggested, in the form of specific psycho-physical laws. Adapting Shand's terminology to our purposes we should then speak of the laws of the propensities. This decreases the risk of our falling into the fallacy of the faculty-psychology. Moreover it draws explicit attention to the fact that it is the business

[1] It may be questioned whether the adjective 'fundamental' is required. But some prefix would seem to be necessary to mark off the propensities which, if McDougall be right, are themselves underived but the source of many derivative tendencies.

of Psychology, as it is the business of other sciences, to formulate laws, and to the fact that Psychology is getting on with its business. For, with a little tightening up, McDougall's definitions of the perceptual, emotive and impulsive constituents of some of the instinctive processes would provide the first approximation to the required laws.

But at best they provide only the most elementary type of law, *viz.*, that in which only constants are employed. They state that a given sort of action is uniformly connected with a specific sort of percept, emotion and impulse. Psychologists cannot be indefinitely satisfied with laws of that kind. What is required is to determine relations of functional dependence. That is, we must replace McDougall's constants by variables. We must show how a systematic variation in the stimulus is followed by corresponding variation in percept, emotion, impulse and response. This involves, of course, reducing the whole theory of instinct to terms of laboratory technique. A hopeful beginning was made by Watson in his investigation into the ways of frightening babies. But Watson did not begin quite at the beginning. His experiments were concerned with what McDougall would call the modification of instincts. A more fundamental question relates to the laws of response to stimulation prior to modification. Given that sounds evoke fear we require to know, for example, how qualitative and intensive variation in the stimulus are connected with qualitative and intensive variation in the emotive and other forms of response.

Other interesting questions arise with regard to variation in the temporal properties of the stimulus and perceptual cue. We know a certain amount concerning summation of stimuli, refractory phase and fatigue in relation to the simpler reflex responses, but analogous factors call for elucidation in connection with the propensities.

Having dealt with more elementary questions, we might then yield to the importunities of the Gestalt Psychologists, and consider the influence upon responsive conduct of some of the more sensational variations within the perceptual field.

It is to be anticipated that systematic investigation along these lines would enable us not only to explain specific instinctive responses by reference to antecedent conditions but also to explain the empirical laws themselves. The general principles suggested by McDougall and others as to the ways in which 'instincts' are modified vaguely suggest that the more specific uniformities may be subsumed under others of very much wider range of application.

To summarise. Criticism of the doctrine of instinct as involving the fallacy of the discredited faculty-psychology must be in part accepted as just. There is, however, no single fallacy of this type, but rather a whole series. These have in common the attempt to explain observed events by reference to concepts which may be described as "formal derivatives" of the observed events.

The question whether McDougall's conception of an instinct involves the fallacy depends on certain questions of interpretation with regard to his statements, such as whether his 'structural facts' are formally derivative from his 'functional facts,' and whether the former are intended to explain the latter. Assuming an affirmative answer to the former question, it is then to be accepted as one of the first principles of Psychology that structural terms may be employed for descriptive purposes only. Functional facts are explained only by functional facts.

It is possible, nevertheless, to retain and to develop the essential features of McDougall's doctrine of the instincts and to employ it in a genuinely explanatory way. The facts require to be reformulated in the form of psycho-physical laws, in which specific forms of behaviour are related to observed antecedents. The doctrine also admits of development by the employment of variables in the place of the constants in terms of which instinctive process is commonly described.

IV.—PHYSICAL OBJECTS AND SCIENTIFIC OBJECTS.

By C. E. M. Joad.

I.

It is frequently said that recent developments in physics necessitate an idealist attitude to philosophical problems. Prof. Eddington's arguments in favour of the view that the physicist's world is in some sense the product of abstraction by the physicist's mind, have in particular obtained a wide currency. Moreover the objects, whose independent existence the physicist seems prepared to concede, are of an extremely attenuated character, so that even those who do not go all the way with Prof. Eddington, find difficulty in avoiding the conclusion that some part at least of the colour and variety of the world we perceive is the work of the mind. Thus, whatever view we take of the status of the objects affirmed by the physicist in his laboratory, an idealist attitude to the perceptual world of everyday experience seems at first sight to be indicated, nor, I think, can it be doubted that the conclusions of modern physics have been found to be of considerable assistance by idealist philosophers.

I do not myself believe that modern physics necessitates the idealist views which it has undoubtedly sponsored. On the contrary, it seems to me to be possible, while making due provision for what the physicist has discovered about the material universe, to retain realist views of the worlds both of science and of sense.

Those who seek to retain them are, however, committed to the task of assigning a status to scientific objects and determining the nature of their relation both to physical objects and to sense data. It is this task which I wish to attempt in the following article. Before it can be essayed, however, it is necessary first to say something about the relation of the mind to the objects which are known in sense experience. The view which I propose to adopt is that these are never physical objects; if this view is correct, the logical status of physical objects as well as of scientific objects must be determined. Since it is impossible to

cover all the relevant ground within the space of a single article, I propose to assume the following positions:—

(1) That the experience of the physical world which we have through our sense organs is an experience not of physical objects but of sense data.

(2) That, accordingly, we have no direct *sensory* experience either of physical or, as a general rule, of scientific objects.

(3) That most of the views currently entertained by different philosophers as to the nature of the relation between sense data and physical objects, such as for example that physical objects are causes of, or sources of sense data, or sense data manifestations of, or parts of the surfaces of physical objects, are for various reasons untenable.

The questions raised by these assumptions have been exhaustively discussed in recent philosophical literature, *e.g.*, in Prof. Moore's *Philosophical Essays* and in Dr. Broad's *The Mind and Its Place in Nature*, and the reasons given by these writers for making these assumptions seem to me to be convincing, although they do not seem always to have convinced their authors. I propose, therefore, to assume the truth of the propositions asserted in (1), (2) and (3) without further discussion.

I come now to the question of the nature of the relation of the mind to the objects which are known in sense experience.

II.

That when we apprehend the external world some sort of mental activity is involved is, I think, matter of common agreement among philosophers. I propose to call this mental activity an act of apprehension (A) and the object of it non-committally (O). I say non-committally, because I am not at the moment concerned with the question whether the object is a physical object or, as I am proposing to assume, a sense datum. Now there are four different views, each of which has, I think, been held by some philosophers with regard to the nature of the act of apprehension A and its relation to the object O. No doubt there are many others, but for my immediate purpose these four are the most important.

(1) We may hold that A is directed not upon O but upon I, I being some intermediate entity, whether idea or visual image or representation or cerebral event, which is said to be caused by O or by the impact of O upon the body (or in some views upon the mind).

(2) We may hold that A is not a bare act but an act with a

content C; that A and C are inseparably bound together to constitute a whole or unity, such that, although the two elements in the whole may be distinguished in thought, nevertheless to treat them as if they were *in fact* distinct is to falsify both them and the whole; that such wholes are mental, that they logically precede the aspects A and C which are distinguished in them, and that it is of wholes of this kind and of the larger wholes of which they in turn form part that the universe consists. On this view C takes the place of O.

(3) That there is an A, and that there is also an O which it is not a fiction to regard as separate from A, and that A knows O. In knowing O, however, A modifies it, investing it with elements contributed by the mind (or the body) of the knower, so that O as known is necessarily different from O before it enters into knowledge. Since O as known embodies mental elements, O is sometimes spoken of as the content C of the act A, so that this view becomes a variant, albeit a confused one, of view (2).

(4) We may hold that A is simply a way of knowing or experiencing an object O; that the relation of knowing or experiencing is unique, and is different both from the relation of a thing to its qualities and of a substance to its attributes; that this unique relation only holds in the case in which one of the terms related is a knowing or experiencing mind, and that it is both a peculiar characteristic of mind's experience of its objects, and is also a common characteristic of all mental experiences of objects, of whatever kind the experiences may be. When, therefore, a mind apprehends the external world, there are involved on this view not three entities, A, I and O, or A, C and O, but two only, A and O.

To views (1), (2) and (3) there are, it seems to me, overwhelming objections.

Briefly, view (1) invokes an O, which *ex-hypothesi* is never known, to be the cause of an I which is. But, if the O is never known, we cannot know any of its properties; we cannot know, therefore, that it has the property of being able to cause I. As this property is the only one in virtue of which we postulated its existence, we have no reason to suppose that it exists.

View (2) leads directly to Solipsism. Those who hold it are fond of emphasising the fundamental similarity of all mental acts. If it is true that my awareness of red is an indivisible mental whole of which red is the content, the same will be true of my awareness of other people; they too will be merely the contents of my acts of awareness. There will be, in fact, on this view, no such thing as my awareness of anything; there will be only

successive acts of awareness with varying contents, which only by courtesy can be regarded as mine. For even I myself am only a content of acts of awareness which admittedly I call mine, but which have no existence except in so far as I am a feature of the contents of the acts.

(3) seems to me to be only a confused statement of view (2), to which it is logically reducible. It asserts that the O which I apprehend is a compound; there is a core which belongs to the external world, and this core is surrounded by an aura of characters with which it has been invested by my mind or (on some views) by my body. But, since I do not know which of the total qualities of the presented object are contributed by me and which come from outside, I have no justification for saying in respect of any one of them that it is not in fact contributed by me. Hence, for all I know to the contrary, the whole of the object apprehended may be merely an inseparable content of my act of awareness; at least, I can never be sure that it is not.

The above are only a few of the objections which the first three views seem to me to be exposed; nevertheless they seem to me to be convincing objections, and I should therefore strongly favour view (4). This view has, moreover, the advantage of according with the presumptions of common sense, which unhesitatingly assumes that in sensory experience the mind is in direct contact with Os which, during the time when we are aware of them, are precisely the same as they would be if we were not aware of them. Common sense does not, that is to say, so far, at least, as most of the objects which we apprehend in sensory experience are concerned, suppose that the mind plays any part in modifying, still less in creating or supplying them. In refraining from making any such supposition common sense, I feel convinced, is right; it falls into error only with regard to the nature of the objects, of which in sensory experience it believes itself to be directly aware. For these objects, which common sense believes to be physical objects, are, I am assuming, never physical objects but are always sense data.

If view (4) gives the correct analysis of the process of sensory experience, the relation of mind to object is one of direct apprehension, in which nothing is contributed to the object apprehended. What I now want to suggest is that this same relation of direct and non-contributory apprehension characterises *all* types of mental experience; that this *awareness* of something not itself is in fact both the common element in all kinds of mental activity, and also the peculiar characteristic of mental activity, so that to say of anything that it is a mind is to say of

it also that it has to things, which are other than itself, this unique relation of being directly aware of them.

I cannot here defend this assertion at length. Many of the arguments in its favour are familiar in philosophical controversy. In particular there are a number of negative arguments which are devoted to showing the difficulty of holding any other view of the relation of mind to its object, which, so far as sensory experiences are concerned, win fairly wide acceptance. It is, nevertheless, a fact that comparatively few philosophers seem prepared to push the implications of these arguments to what seems to me to be their logical conclusion, the conclusion, namely, that all mental activity including the activity of thinking, is to be similarly interpreted as a direct awareness of non-mental objects.

There is, indeed, a fairly general agreement to the effect that the relation of experience to its objects must always be the same. Even idealist philosophers, who hold that in sensory experience the object known is the content of the awareness of it, are anxious to maintain the same view with regard to judgment or thought, holding that what is judged is the content of the judgment. And it is, I think, the case that it is extremely difficult to hold that mind's relation to the objects of its apprehension varies according to the nature of the mental activity involved. Hence, if I am right in supposing that in sensory experience the relation of mind to its objects is one of direct apprehension of something which is precisely the same as it would be if it were not apprehended, then it will follow that in thinking or judging the relation of mind to the object thought or judged will be equally one of direct apprehension of what is independent of and unaffected by the thinking or judging.

There are many philosophers who seem prepared to accept the implications of this view in its bearing upon our knowledge of what are called universals. There are, moreover, epistemological theories, of considerable reputation in the history of philosophy, of knowledge as being in its essential character immediate vision, which point in the same direction by representing the act of knowledge as fundamentally revelatory in character. There is, for example, Aristotle's conception of immediate as opposed to demonstrated knowledge (*νοῦς* as opposed to *ἐπιστήμη*), which specifically draws a parallel between the immediate certainty of our apprehension of sensible fact and the immediate certainty of our apprehension of the ultimate principles of thought and demonstration. The facts belonging to the special sciences are also known, for Aristotle, in the same immediate way. In all these cases knowledge is, as I say, represented as essentially

a process of *vision*, and the notion of vision suggests, indeed it requires, that what is viewed should be not only something other than the vision of it, but also independent of and unaffected by such vision.

But while there is recognition of this essentially revelatory character of some types of knowledge, with all that the notion of revelation implies in the way of the independence and objectivity of the object, there is hesitation in ascribing the same character to all mental activity.

In spite of this hesitation I would nevertheless venture the suggestion that this is in fact the distinguishing character of mental activity, and that all experience of whatever kind, whether it takes the form of thinking, judging, knowing, opining or perceiving, is to be interpreted as experience of something which is strictly external to and other than the experience; and what I propose to do is to try and apply this general view of the nature of mental activity to the special case of our knowledge of physical objects and of scientific objects.

III.

Applied to physical objects this view commits us to the assertion that, when we know physical objects, the relation of the mind to what is known is a direct apprehension of entities which remain precisely what they were before they were apprehended. Yet I am assuming a view of perception which holds that such entities are not met with in our sensory experience of the external material world. I have also argued that they are not part of or an aspect of the content of our awareness of them, and that there is, therefore, no reason to regard them as mental. It is of course possible that, although they are not an inseparable aspect of the perceiver's experience, they may nevertheless be an aspect of some experience; but, unless we are prepared to take a wholeheartedly idealist view of the universe, there is absolutely no ground for thinking that they are.

If they are not to be met with in our experience of the external, material world, are not mental but are nevertheless directly apprehended, what status are we to assign them? A hint of the answer may, I suggest, be found in the language which, on the view of sensory experience I am assuming, the view, namely, that holds that our experience of the external, material world, always takes this form of the apprehension of sense data, must be used to describe our knowledge of them. The plain man on this view directly apprehends a green visual datum; nevertheless

he *thinks* that he perceives a leaf; moreover, he *thinks* that he perceives a leaf, whenever he apprehends a green, visual datum of a certain sort.

And it is the introduction of the word 'thinks' which, if we take this view of sense experience, we are compelled to employ when indicating the nature of the mind's knowledge of a physical object, which suggests a hint of the answer to my question. For the word 'thinks' suggests that the leaf, if it is in fact not an object of visual apprehension, may be an object of *thought*. In saying this, I am anxious to guard against two possible misunderstandings, to which such a statement is particularly liable: (1) I do not mean that the leaf is a *product* of thought any more than I mean that the green datum is a product of visual apprehension; (2) I do not mean that the relation of the mind to the leaf, when we think of it, is in any way different from the relation of the mind to the green visual datum which we directly apprehend by means of our sense organs. In each case the mind is directly aware of something other than itself.

Nevertheless the experience of thinking of a leaf—and since we never directly apprehend it by means of our sense organs, it follows that, if we are to experience it at all, it must be in non-perceptual thinking—is a different experience from that of directly apprehending a visual datum. But it is different not because the mental acts involved are different, but because the objects upon which the two acts respectively are directed are different; that is to say, the type of object of which we are aware when we think of a leaf (whether the leaf is as we say existentially present, when we are falsely said to perceive it, or existentially absent, when we are said to remember or imagine it) belongs to a different order of reality from that of which we are aware when we directly apprehend a visual datum.

And that this is so is, I think, abundantly evident from a consideration of the machinery of perception. That the material world is perceived through and by means of our sense organs is not, I take it, denied by anybody. What account does science give of this process of visual perception? A certain physical stimulus is applied to the retina of the eye, is carried along the optic chord and reaches the brain where it produces a disturbance in the nerve cells of the brain, as a result of which there occurs the psychological experience which consists in a direct apprehension of a visual datum (S). Unless the stimulus is applied, there is no act of direct apprehension; when no datum is existentially present, there can be no external stimulus, and consequently no movements along the optic chord, and no resultant events in the

brain of the kind which are caused by such movements, and only by such movements. Thus, when we think of an object which is not present, none of the physical events, the occurrence of which is the indispensable condition of the direct apprehension of the visual datum (S) occur. I do not wish to suggest that the occurrences at the retina and along the optic chord are the *sufficient* conditions for the visual apprehension of S, when S is present; it is enough for my purpose to point out that they are *necessary*. Since they do not take place when we think of an object (O), it follows that at least one part of the total cause of the two mental experiences, which are respectively thinking about an O and directly apprehending a visual S, is different in each case. Different causes produce different effects, and it follows that the resulting mental experiences must themselves be different in the two cases; the difference is, indeed, open to inspection.

The above constitutes one very important reason why thinking about a fire which is absent is a different experience from seeing a fire which is present.

The fact that the word fire is used in the description of both experiences, naturally suggests that the object of both experiences is the same, namely, the physical object which is what we call the fire, and accordingly invests with an air of paradox the statement that the fire we see is not the same as the fire we think about. The belief that the object of my direct visual apprehension is the physical fire is, however, on the view that I am assuming, a delusion. What I directly apprehend on this view is a red datum of a certain shape, but what I think about is not a datum at all but a fire. Thus all that I am in fact asserting is that the object fire which I think about is different from the red datum which I directly apprehend with my visual, and the hotness which I directly apprehend with my tactile organs, and, when this is realised, the air of paradox disappears. And the point I am trying to make is that this admitted difference between the mental experiences of seeing and feeling red and hot sense data and thinking about a fire, is due not to any intrinsic difference in the mental acts involved, nor to any difference in the relations between the mind and the objects, but to differences between the objects, two of which, the red and the hot data, are constituents of the physical world, while the third, the fire, is not. And, since we never do have a sensory experience of a fire in the sense in which the fire is a physical object, but always of such entities as red and hot data, it will follow that our experience of the physical object, fire, always takes the form of what I have called thinking about it, and this will be the case whether what is

called the fire but is in fact a mass of correlated data, is existentially present to us or not.

What status, then, on this view are we to assign to the fire in the realm of existents? The answer which I venture to suggest is that physical objects belong to a third realm or order of existence, an order neither mental nor material, which was attributed by Frege to logical terms and extended by Meinong to include so-called unreal existents.

Let me briefly recall some of the arguments by which this school of thought seeks to establish the existence of this 'third realm'. (1) In the interests of logic, physics and mathematics we must, it is said, adopt a view which is like that of the school of Intentional Psychologists, in that it asserts a distinction between the objects of apprehension and the apprehension of them and the consequent "otherness" of the objects, but which goes beyond the Intentional school in maintaining that the objects of apprehension are also *independent* of the apprehension of them. Otherwise the laws of logic, physics and mathematics will have a merely adjectival status as states of the knowing mind; they will tell us, that is to say, nothing about the universe to which they purport to apply.

(2) Unless we wish to hold that the objects of sense perception are mere states of the knowing mind, we must apply a realist theory of consciousness in general to the particular case of our consciousness of the objects of sense experience. Now all forms of thinking are also forms of consciousness; thus, if the objects of acts of consciousness in sense experience are other than the mind, the objects of those acts of consciousness, which are judging, opining and imagining, must also be 'other'. Hence 'concepts' including universals, laws, numbers and relations are non-mental, but are nevertheless real, being objects of thought.

(3) We should not hesitate to apply this line of argument to so-called 'unreal' existents. If I represent to myself "a golden mountain", I am undergoing a certain "intentional experience," that is, my experience stands in an "intentional relation", in the sense of the term "intentional" used by Brentano, to its object. But no scrutiny of the experience will reveal the object, the "golden mountain," as contained within it. Therefore the object transcends the experience.

(4) Again the experience of thinking of "a golden mountain," is different from that of thinking of a "red-headed square". Now the content of the psychical act of apprehension must be psychical, whereas what is apprehended need not be. Neither a "golden mountain" nor a "red-headed square" is psychical;

therefore, they cannot be the contents of the acts of apprehending them. Therefore, they must have pseudo-existence, or what Meinong calls ' subsistence ', as the objects of the acts, if only in order to account for the difference between the two experiences of thinking of first one and then the other.

Now it seems to me that these arguments, if they are valid for the establishment of such objects as golden mountains, if further, they are valid, as many consider them to be, for the establishment of the objective existence of universals such as redness, are valid also for the establishment and inclusion in the same realm as that which contains universals of all objects which are thought about but of which we have no direct sensory experience. It may be pointed out parenthetically that very similar arguments are used by Plato in the Parmenides, where Parmenides points out in refutation of the view that the Ideas are thoughts in the mind, that you cannot have a thought which is a thought of nothing, and I have already referred to Aristotle's view of certain kinds of intellectual apprehension as immediately revelatory of their objects. And since we do not, when our sense organs are stimulated by contact with the material world, directly apprehend physical objects, yet do nevertheless know them, I can only suggest that we should assign to them a place together with universals and Meinong's ' unreal objects ' in his so-called third realm of non-mental, non-material existents. Physical objects, then, on this view, are objects of thought; but, in saying that they are, I do not wish to imply either that they are not real existents, or that the relation of the mind to them when we think of them, is different from its relation to sense data when we directly apprehend them. And the advantage of this view seems to me to be that it enables us to see how the experience of thinking of a fire can be different from that of seeing or feeling one, as it perceptibly is, without at the same time requiring us to hold that the mind's relation to the objects respectively concerned is different in the two cases. To think of a fire would inevitably be a different experience from seeing or feeling one if (and I should say only if) the object upon which the mind is directed in thinking, is in fact a different object from that upon which it is directed in seeing or feeling.

IV.

I can now proceed to a consideration of one of the questions which I raised at the beginning of this article, the question, namely, of the relation of sense data (Ss) to physical objects (Os).

Since it is a fact that I scarcely, if ever, do apprehend a S without thinking that what I am aware of is an O, the relation must be such as to satisfy the condition, that to say that I apprehend an S is to say also that the S has a particular property, the property, namely, of causing me to think I am apprehending an O. And this, I think, is all that I am prepared to say about the relation; I do not, that is to say, know how better to express the relation of S to O than by saying that a S or set of Ss has the property of being able to make the mind that apprehends it think of an O. The function of the material world is, in other words, to 'turn the eye of the mind' (to use an expression of Plato's) to the world of thought, that is to the realm of non-material objects. But, and this, I think, is an important point, it is not always the same O to which the apprehension of a particular S or set of Ss directs the attention of the mind. For, although the "third realm" of objects of thought is itself constant and changeless, that portion of it which is revealed to the eye of the mind changes as the mind that apprehends it develops. The world of what we call physical objects, which is the world known to common sense, has changed in the past and is still changing in the present, and at any given moment in the evolution of life and mind it bears a manifest relation to the minds of the beings that are aware of it. That I do not mean by this that the mind at each level of evolutionary development constructs a different world of physical objects from the data supplied by the senses, the previous analysis should have made clear. What I do mean is that the area of the universe (if I may use such an expression) discovered by mind varies, and varies as mind evolves; a mind, in other words, knows only so much of the universe as, at the particular level of evolution it has reached, it is capable of knowing. As life evolves and mind develops, its faculty of awareness is refined and the scope of the faculty is enlarged; and to the developed faculty there is revealed a different world of physical objects from that known by the rudimentary one. Thus at each level of evolutionary development sense data may be regarded in the light of signposts pointing the mind to the physical objects, which, at the particular stage of development reached, it is capable of knowing.

Certain definite stages in the process may be distinguished. It may be doubted whether physical objects are known at all to organisms low down in the evolutionary scale. Difficult as it is to conceive what a tape worm's world may be like, it seems plausible to suppose that it consists only of those objects of direct apprehension, roughnesses and smoothnesses, hotnesses and

coldnesses which we are accustomed to call sense data. It is, I think, at least doubtful whether these sense data which the tape worm apprehends ever direct its awareness upon anything approximately resembling what we call physical objects. As we go higher up the evolutionary scale, we reach a stage at which it seems probable that something approximating to physical objects begins to emerge from the welter of sense data. But they do not seem to be the same physical objects as those apprehended by the mind of man. The world of objects apprehended by dogs, for example, is in certain ascertainable particulars different from our own.[1] But the mere statement that it is different does not sufficiently convey *all* that I wish to imply. To say that a dog's world is different may mean either or both of two things : (1) That, because a dog has different sense organs, the sense data that he apprehends are different. The character of a sense datum is partly determined by physiological conditions in the perceiver ; it is fairly clear in the case of a dog that the physiological conditions are different from those prevailing in ourselves, and will therefore determine a difference in his sense data ; the smell data of a dog, for instance, will be richer and more varied, the visual data fewer and less varied. (2) That the physical objects of which the dog is aware consequent upon his apprehension of sense data are different from those apprehended by a man, and, since a dog's mind is at a lower level of evolutionary development, probably much more restricted. That a dog cannot think as a man can think is a matter of common agreement. Hence, if thinking is the process of the mind's awareness of non-mental objects, among which physical objects are to be included, it will follow that the physical objects of a dog's world will be fewer and less varied than those of a man's. And in saying that a dog's world is different from a man's I wish to assert that the differences are of both kinds, that is to say, that they include both the differences of sense data (1) and the differences of physical objects (2).

Coming to human beings, we may note that even in our own experience the world of physical objects comes only gradually into cognisance. A baby's world, it is fairly generally agreed, is composed of sweet objects which it sucks, bright objects which it tries to grasp, noises which startle it and hard corners and edges against which it knocks itself ; it is only later that it becomes aware of chocolates, the moon, barking dogs and the legs of chairs and tables. Most of us can remember times in

[1] Those who feel doubt on the point may be referred to the extraordinarily interesting title essay in J. B. S. Haldane's *Possible Worlds*, in which some of the characteristics of a dog's world are indicated.

childhood when things "looked different" from what they do now, although we may not be able to say or even to remember precisely what the difference was. Savages again, if some anthropologists are to be believed, "perceive" the world differently from ourselves;[1] that is to say, they "perceive" a world containing objects which are in some respects different from our own,[1] even although the similarity of their sense organs makes it probable that they apprehend the same sense data. That a tree on a dark night is "perceived" by the savage to have the form of a demon, and by a child that of an elf is credible enough, especially if, as I am suggesting, trees, demons and elves are all of them objects which, not being constituents of the material world of sense data, must be apprehended not by the senses but by the mind.

Now it seems to me unlikely that the advance in mental power which has accompanied the development of civilised man should not be attended by any modification in his view of the world. In the realm of material law the world of capricious spirits and moody gods of the savage has given way to the ordered passage of nature studied by the scientist. The most apparently diverse phenomena are brought within the framework of common formulæ; their causes are traced and their recurrence predicted. The lightning is no longer God's angry eye but the discharge of electrified drops of vapour from one cloud into another. Similarly, in the sphere of conduct, the subconscious cravings and blind urges of the animal world are transformed into the intelligent foresight and rational motivation of the human being. These things are admitted, nay more, they are taken for granted as natural accompaniments of the advancing intelligence of our species. Is it, then, too venturesome to suggest the possibility that to an intelligence enlarged in point of scope and depth of awareness the world, which no longer works the same, may no longer look the same? Here again I would guard myself against misinterpretation by emphasising the point that I am not suggesting that the civilised man does not apprehend similar sense data to those of savages. What I wish to suggest is that the stimulus of similar sense data may on occasion turn the eye of his more developed mind to a different department of the universe, so that his awareness comes to be directed upon a new kind of object, and that this new kind of object may belong to the class of objects which we call scientific.

[1] The ambiguity of this expression must be pardoned. The point is that, although savages apprehend sense data which are similar to those of civilised men, they are *nevertheless* aware of different physical objects.

The knowledge of scientific objects did not come suddenly any more than the knowledge of physical objects came suddenly. The world of science like the world of physical objects has been only gradually revealed to the mind of man, and its revelation has been marked by a direction of human awareness upon new types of objects. The gradual emergence into awareness of these new types of objects can be traced in the history of science, and, as science progresses, they grow significantly more and more unlike physical objects.

It is interesting in this connection to notice in what respect scientific objects chiefly differ from physical ones. The chief difference between modern physical objects and modern scientific objects is that the former are thought to possess the qualities of sense data, while the latter are not. Physical objects, it is obvious, are conceived on the model of sense data. They are like sense data in that they are round or square, sweet or sour, hard or soft and coloured; they are unlike them in that, while no single sense datum which is round is also sweet, and no single sense datum which is sweet is also coloured, and no single sense datum which is mine is also yours, physical objects are corporate entities which combine all these qualities in themselves and are common to many persons. In order that they may serve these purposes they are credited with the additional quality of materiality or substance. Thus their function is to serve as centres of correlation for sense data; they are, in other words, shorthand expressions for masses of correlated data, so that, when we say something about the qualities of a physical object, what we say can be analysed into a statement about the sort of sense data which we should experience if certain conditions which are not fulfilled were to be fulfilled, if certain movements which are not made were to be made, and so forth, a highly elaborate and complicated statement. Physical objects are convenient devices for avoiding these complications; but the knowledge of them involves a high degree of what is called abstraction. That is why it is only minds which have evolved to a certain level that become aware of them.

It is this function which physical objects perform in simplifying the communications which we wish to make about sense data by enabling us to put our statements in shorthand form, that I had in mind when I said some pages back that the common sense world bears a manifest relation to the mind of the beings that are aware of it. Perception has, it is obvious, grown up in connection with action, and the belief in a world of material, physical objects has been largely determined by practical needs.

These needs it is admirably fitted to meet. By correlating immense masses of data and then proceeding to endow the correlations with material existence as physical objects forming part of the physical world, the mind of primitive man effected an immense saving of time and energy. As a result, he was enabled to assume the existence of what was tantamount to a common physical world, an advance not dissimilar in kind and in its effects from the creation of a common currency to replace primitive barter. But the advance was only rendered possible when mind had reached a level of development at which it was capable of the awareness of objects of thought; that is to say, of those objects, into the awareness of which, our knowledge of physical objects should, as I have tried to show, be analysed. And since, although the common physical world was fictitious, the common thought world was not, the fictitious common physical world was enabled to serve all the practical purposes of a real one.

Nevertheless, as soon as we pass beyond the practical considerations which led primitive man to assume its existence, the belief in a common sense world of physical objects has manifest limitations. Two in particular may be noted. In the first place, it is not logically defensible. It ignores, for example, comparatively rare cases of perception such as those of mirror images, cases in which there would normally be said to be no physical object in the place in which the mirror image appears; it ignores the fact that the objects actually apprehended by different observers, who would normally be said to be perceiving the same object (or by the same observer, who is perceiving what is called the same object through different senses) exhibit to careful inspection important differences, and it ignores the part played by the physiological machinery of the persons apprehending in determining the character of the objects apprehended. In this respect it is exactly the kind of belief which primitive races whose preoccupations were exclusively practical, might be expected to hold, and the physical world whose existence it asserts is exactly the kind of world which would be most appropriate to their purely practical purposes. Ignorant of the machinery of perception and having no incentive to inspect minor differences in the directly apprehended objects of different observers, primitive men would naturally not be troubled by the defects to which I have referred. Nevertheless, it is precisely these defects which render the view of the material world as consisting of physical objects logically untenable, and necessitate an interpretation of sensory experience in terms of the direct apprehension of sense data such as I am here assuming.

In the second place the belief, in so far as it purports to render an exhaustive account of the constituents of the universe—and for a time, with certain exceptions in favour of gods and demons, it did purport to do this—is manifestly inadequate. As civilisation advances, the mind of the race, released from the pressure of the immediate urgencies of the struggle for existence, becomes curious and speculative. It wants to know, for example, what the external world is made of; in particular, it is disposed to wonder whether it cannot be analysed into simpler constituents than the mass of varied objects which immediately appear. And in the endeavour to find out whether it can be so analysed, it comes upon the world of science.

V.

I have now reached a point at which the implications of the preceding arguments in their bearing upon the status of scientific objects can be examined. Before, however, I proceed to consider them, I must once again guard myself against misapprehension. By the "mass of varied objects which immediately appear" I mean the world of physical objects; and by the world of science I mean the world of scientific objects

I will now try to indicate the status which, on the basis of the preceding argument, should be assigned to scientific objects. That physical objects are not included in the realm of material existents I have already argued I shall now try to show in regard to scientific objects, that these also are not to be found in this realm

Both the plain man and the scientist directly apprehend through their senses a world of sense data. This world of sense data turns the eye of the mind in the direction of the non-material world of thought. Constituents of this world are physical objects, which the plain man knows but which he falsely believes to be inhabitants of the material world. Constituents of this world also are scientific objects, and when I speak of the early scientist as a man who, becoming curious about the physical world, sought to analyse its immediately-presented variety into a smaller number of common constituents, what, putting the point precisely, I am actually asserting is that, as the race develops, the mind of the scientist is directed by his apprehension of sense data less and less to an awareness of physical objects, and more and more to an awareness of scientific objects. I propose to illustrate this gradual diversion of attention by citing a few illustrations from the course actually followed by scientific thought. In doing so, I can take

up again the question I raised some time ago of the differences between physical and scientific objects.

I have already pointed out one obvious difference, which is that, while physical objects are modelled on the basis of sense data and derive all their properties from sense data, the resemblance to sense data in the case of scientific objects is less marked. As science advances the resemblance diminishes until, when the modern wave-mechanics are reached, it vanishes altogether. The substitution of scientific objects for physical objects is, however, a very gradual affair. Just as the world of sense data only gradually gave way to the world of physical objects, so the world of physical objects only gradually gave way to the world of scientific objects. In their early stages scientific objects are remarkably like physical objects: the gold and the lead of the alchemist are in fact physical objects thinly disguised, while such entities as the elixir of life and the philosopher's stone are physical objects endowed with a few additional and highly desirable qualities. It is not until the beginnings of modern science proper that the emergence of the true scientific object from the matrix of the physical object begins. And the emergence is marked by the gradual dropping of the more obviously perceptible of the qualities which the physical object derives from sense data. By the more obviously perceptible qualities I mean those qualities of taste, sound, colour, temperature and texture, by means of which we chiefly distinguish one sense datum from another.

It is by virtue of their lack of these qualities that the first scientific objects are chiefly distinguished from physical objects. For a considerable time, however, they retained the less obviously perceptible differentiating qualities, such as spatial extension and materiality. It was the contemporary conception of the scientific object as possessing these latter qualities only, combined with the presumption that the scientific object is objectively real in some sense in which the physical object is not, that led to the distinction in seventeenth and eighteenth-century philosophy between primary qualities and secondary ones. Primary qualities are objectively real; they inhere, that is to say, in nature because scientific objects possess them. Secondary qualities are not, because scientific objects do not possess them. Hence, it was held, secondary qualities are the products of the mind, and physical objects were regarded as scientific objects dressed up by the mind in the garments of secondary qualities.

The distinction, never logically defensible, has been superseded by the continued stripping away from the scientific object

of the qualities derived from sense data. Elements of substances had weight, shape and mass ; so in theory had molecules, although nobody had ever seen a molecule ; so, too, until recently, had protons and electrons, although the size and mass of the electron, reduced practically to vanishing point, could be spoken of only in a Pickwickian sense. Even its motion was queer, since, when it moved from place to place, instead of traversing the space between the two places like a physical object, it turned up first in the one and then in the other, without apparently having taken the trouble to ' get from ' the one to the other.

Such concepts as those of electricity, magnetic force and quanta of energy strain our imaginative capacity to its utmost limit in the attempt to conceive of them in terms of the objects we know. Regarded as physical objects they are, indeed, the merest ghosts, retaining only spectral vestiges of a very few of those qualities in virtue of which a so-called physical object lives and has its being.

With the coming of modern wave-mechanics the attempt had definitely to be abandoned. First, there was the difficulty of picturing the atom as a centre of electrical force, a centre which was without materiality. The proton, it is true, could be thought of as a positively charged piece of matter,[1] but the electron was not a tiny piece of a material something carrying a negative electric charge ; it simply was an electric charge. Matter, in fact, when the electron stage was reached, had lost the primary quality of materiality.

(It may be pointed out in passing that the recognition of the fact that scientific objects are now devoid of materiality, should throw light on the time-honoured philosophical problem of substance. The idea of substance is a notion derived from sensations of touch, that is to say, it is based upon our apprehension of sense data. On the view I am putting forward our knowledge of physical objects is relative to and determined by our practical needs. In order that they may serve these needs they are conceived upon the model of sense data, and substance, therefore, like colour or temperature, is legitimately regarded as a quality of physical objects. The significance of our knowledge of scientific objects is, however, as I have tried to show, different ; it is natural, therefore, that they should lose more and more of those qualities of physical objects which derive from our apprehension

[1] Positive charge, unlike negative charge, cannot be obtained free of matter ; we can have negative electricity in an isolated state, but positive electricity only in the form of a positively charged atom or assembly of such atoms.

of sense data, among them the quality of substantiality. Thus, substance, legitimately an attribute of physical objects, is illegitimately intruded into the world of science.)

More difficult still was the attempt to conceive of light rays, as we were presently asked to do, as possessing not only wave properties, but also particle properties. Concentrate on the periodic characteristics of light rays, characteristics which they share in common with sound waves, and you are led to infer that they are in essence wave-like; turn your attention to the phenomena of radiation from a black body and you are forced to conclude that radiation of all kinds, including light radiation, consists of discrete particles of energy. But the statement that light rays are both waves and particles implies that atoms too have this twofold property. It is precisely this which is asserted by the wave-mechanics of de Broglie and Schrödinger, which seek to attribute wave motion to particles, and particle motion to waves. The ultimate particle, presumably the electron, is, on this theory, associated with two separate velocities, and each velocity has its special wave-length of corresponding waves. When we remember that the particle is itself a charge of negative electricity which is nevertheless a charge in nothing, we have, it is clear, reached the limits of pictorial imagination. Nor should this occasion surprise; the faculty of imagination is determined by the qualities of the immediately apprehended world which have formed it; hence modern scientific objects cannot be conceived pictorially just because they have become divested one by one of all the qualities of what is immediately apprehended.

What is true of the faculty of imagination is true also of the capacity of language; language, too, has grown up in relation to the familiar world to serve the needs and uses of practical life. Thus it is no surprise to find that scientific objects cannot even be described in words without falsification; they demand an appropriate language of their own, and find it in the formulæ of mathematical physics. Thus scientific objects, which originated in and emerged from the world of physical objects, have by process of gradual development been transformed out of all likeness to their progenitors. And in being divested of their resemblance to physical objects, they have been divested also of resemblance to sense data, in the likeness of which the world of physical objects is formed.[1]

[1] *Cp.* Eddington: "Until recently there was a much closer linkage"; (*i.e.*, between the world of science and that of common sense) "the physicist used to borrow the raw material of his world from the familiar world, but

Nevertheless, both physical and scientific objects are constituents of the real world (although not of the physical world), and are cognised by acts of direct apprehension exercised at different levels of mental awareness. The phrase is an ambiguous one, and I will try to give it precision by citing the different levels of awareness at which the mental activity of the scientist takes place. Four planes or levels may, I think, be distinguished:

(1) The scientist in his capacity of plain man experiences sense data and thinks that he perceives physical objects. The analysis of this process that I have suggested is that the sense data, which the plain man directly apprehends, direct his attention to those physical objects which are what for practical purposes it is useful for him to know.

(2) The scientist in his capacity of experimenter still experiences sense data and still thinks that he perceives physical objects. He thinks, that is to say, that he perceives scales, balances, test-tubes, retorts, gases and interferometers, when in fact he is apprehending sense data which, as before, direct his attention to physical objects.

(3) He experiences sense data, thinks, as before, that he perceives physical objects, and is in fact aware of scientific objects. This is the stage at which, to use ordinary language, the scientist infers from the phenomena he observes facts about other phenomena, molecules, for example, which he does not observe. For example, if a gas is heated in a sealed space, the increased pressure against the sides of the containing body, which is what the scientist measures and the effect of which he observes, is said to be due to the greater energy of the molecules of gas. What the scientist experiences is a succession of sense data; what he *thinks* he perceives are such physical objects as heated containing bodies, thermometers, and the pointer readings of an apparatus for measuring pressure; what he is actually thinking about is the movements of molecules, that is, he is thinking about scientific objects.

(4) A fourth stage is now being reached in which instead of the round-about route from sense data to scientific objects via physical objects, there is a direct reference from sense data to scientific objects. The interpolation of the physical object is, in fact, dispensed with. Consider, for instance, the procedure of the scientist observing light bands on the spectroscope or inter-

he does so no longer. His raw materials are æther, electrons, quanta, potentials, Hamiltonian functions, etc., and he is nowadays scrupulously careful to guard these from contamination by conceptions borrowed from the other world."—*The Nature of the Physical World*, p. xv.

ference phenomena. The scientist so engaged can scarcely be said to be perceiving physical objects. He is noting certain sequences of visual data, and from these sequences he proceeds direct to inferences about atoms.

The following example may serve to illustrate this important point in greater detail. When an atom of helium (an alpha particle) is discharged by radium C, it knocks electrons out of the various atoms it meets in its path, leaving a line of positively charged atoms (ions) in its wake. If the air through which the alpha rays pass is moist and is then cooled, the positively charged atoms become centres of condensation; that is to say, they act as occasions for the gathering of droplets of moisture. Thus the path of the alpha particles is marked by a fine white line of foggy condensation, and it is from observation of this line that the path of the particle is deduced. The point of this illustration lies in the difficulty of supposing that it was observation of the behaviour of any physical object which led the physicist to his conclusions about the behaviour of the particles. Certain occurrences are observed in the form of visual data (in this case a white foggy streak) and these visual data direct the physicist's mind to conclusions not about physical objects but about scientific objects.

The case is typical of a short-circuiting which is characteristic of modern scientific thought. There is, that is to say, a growing tendency to think in terms of scientific objects, and to dispense so far as possible with the intermediating physical object. A race of men is arising who think of electrical quantities as fundamental, and explain the behaviour of mechanical objects, which are familiar and obvious to most of us, in terms of them. Electrical self-induction is to these men a familiar thing, although the occurrences which self-induction implies can neither be visualised nor imagined. What is interesting is that the physical phenomenon, *e.g.*, the behaviour of the mechanical model, has come to be thought of as something derivative, less easily understood than the electrical induction in terms of which it is explained. Thus knowledge of the behaviour of scientific objects, is used to explain the behaviour of physical objects, instead of, as has hitherto been the case, knowledge of the behaviour of physical objects being used to explain that of scientific objects. Translating in terms of our formula we may say that the experience of sense data first directed the awareness of the human mind solely upon physical objects. Later it was directed first upon physical objects and then through physical objects upon scientific objects. To-day the experience of sense

data is turning the attention of scientists directly to scientific objects, the intermediate apprehension of physical objects being dispensed with. Thus a new level of awareness is being developed at which sense data direct the mind's apprehension not to physical objects but to scientific objects.[1]

Those of us, however, who are not accustomed to scientific thought are incapable of the degree of abstraction from everyday experience involved. To think of a scientific object is still for us to think of a ghostly physical object; that is to say, to think of something to which scientific thought is increasingly inapplicable. Hence the difficulty for the layman of modern physics.

Summary.

In this article I have made the following assumptions, and endeavoured to establish the following positions.

I have assumed, (1) that our sensory experience of the physical world always takes the form of the apprehension of sense data.

(2) That, therefore, neither physical objects nor scientific objects are ever directly apprehended as constituents of the physical world.

(3) That the arguments advanced in favour of supposing that physical objects must exist in the physical world as causes or sources of sense data, or that sense data are manifestations or parts of the surfaces of physical objects are inadequate. These arguments are valid *mutatis mutandis* against the conception of scientific objects as causes or sources. It follows that our knowledge of all propositions about physical objects and also about scientific objects is *based* upon the direct apprehension of sense data, although it is not necessarily limited by such apprehension nor completely analysable in terms of it.

On the basis of these assumptions I have tried to establish the following propositions.

(1) The direct apprehension of sense data, which is our experience of the physical world, adds nothing to what it perceives. Sense data which are apprehended are, therefore, precisely the

[1] *Cp.* Eddington again: "I can well understand that the younger minds are finding these pictures" (*e.g.*, of an electron as a hard red tiny ball) "too concrete and are striving to construct the world out of Hamiltonian functions and symbols, so far removed from human preconception that they do not even obey the laws of orthodox arithmetic. For myself I find some difficulty in rising to that plane of thought; but I am convinced that it has got to come."—Eddington, *The Nature of the Physical World*, p. xviii.

same as they were before they were apprehended by the mind of the observer.

(2) Since physical objects and scientific objects are not apprehended in our sensory experience of the physical world, there is no reason to suppose that they are constituents of that world. This conclusion applies also to the body, brain and nervous system. Incidentally it may be remarked that, unless this is recognised, the facts which scientists have discovered with regard to the machinery of perception seem to leave no alternative to the conclusion that the only physical events that we know, are those happening in our own bodies. Thus a recognition of the fact that physical objects are not constituents of the physical world offers the only way of escape from the conclusions of physiological solipsism.

(3) Since our knowledge both of physical and of scientific objects is based upon the direct apprehension of sense data, it is clear that sense data have an important relation both to physical and to scientific objects. This relation is in each case the same. It is a relation which can best be described by saying that the apprehension of sense data causes us to think or become aware of physical and scientific objects. In other words, the material world of sense directs the mind to the non-material world of thought.

(4) This does not mean that either physical or scientific objects are mental constructions or aspects of thought. They are objects of thought known by mind in precisely the same way as sense data are known, by means of acts of direct apprehension. These acts contribute nothing to what is known, and the world that is "thought of," therefore, exists in independence of knowledge. Since to experience a physical object is to experience something which does not belong to the material world, the mind's awareness of it may be termed thinking, it being understood that thinking means merely the direct apprehension of non-material objects. The "thinking of" physical objects has become so habitual that we normally do not realise that it is thinking at all, and falsely believe that we directly apprehend physical objects in sensory experience as constituents of the physical world.

(5) Whether the awareness which is occasioned by the apprehension of sense data is directed upon physical objects or upon scientific objects, depends upon the level of evolutionary development which has been reached, and upon the purpose in view. Most animals are aware only of the physical world of sense data. As evolution proceeds and mind develops, the scope and range of its insight into the universe are increased, and it becomes

aware of the non-material world of physical objects. The knowledge of this world serves a practical purpose, that, namely, of substituting a common world of public objects for individual worlds of private sense data.

(6) Physical objects can thus be regarded as devices for correlating masses of slightly varying data. They are shorthand descriptions of the objects of numbers of individual experiences, the likenesses between which are more important than their differences. In order that they may fulfil this function, they are conceived in the likeness of sense data and their qualities are those of sense data.

(7) Scientific objects are apprehended by minds at a higher level of evolutionary development inspired by a different purpose. As mind develops and the pressure of practical needs relaxes, it has leisure for a more disinterested view of the universe; and with the leisure it develops the capacity. Thus the various worlds of thought, the worlds of history, of philosophy and of literature come to be discovered, and among them the world of science.

(8) Scientific objects make their first appearance as physical objects which are known under certain standard conditions; then as physical objects stripped of secondary qualities; finally as physical objects stripped of all the qualities apprehended as belonging to the sense data of the physical world; that is to say, as no longer physical objects at all. The awareness of the scientist still needs to be prompted by the apprehension of sense data, but it is in no sense limited by that apprehension. We are beginning to think, and, as the process of abstraction from the qualities of the apprehended sensible world continues, we think increasingly, of scientific objects in non-sensible terms.

Thus whether a combination of red, warm data makes us think of a fire or of a number of molecules of such and such substances, moving at such and such speeds, depends on the purpose which prompts our mental activity and the need which it is designed to serve. Both the fire and the molecules are equally real, and the mind which is aware of them is aware in each case of constituents of the real world, but they are constituents revealed to different levels or orders of thinking. Moreover, whatever the objects of which we think, mind's relation to them is the same relation of direct apprehension.

(9) Ultimately it is conceivable that a race of beings will evolve whose minds will be automatically and consistently directed by sense data to the awareness not of physical but of scientific objects.

V.—DISCUSSION.

MR. RYLE ON PROPOSITIONS.

In the report of the meeting of the Aristotelian Society on 3rd February, 1930, there appears a discussion by Mr. Ryle of whether there are propositions or not. Although it is very clear and pleasant to read, I do not think that it leaves us quite comfortable. He decides that there are no propositions, and in that most of us agree with him. But he does not wholly succeed in showing us why we ever wanted to think there were, and this is vital to our peace of mind. An error is not completely removed until we see why it arose. Mr. Ryle fails to show this, first because he leaves unrefuted some of the arguments that he brings in favour of propositions, and secondly because he fails in his own solution of what he calls "the main problem which the theory [of propositions] aimed at solving".

I want to maintain first that Mr. Ryle does not answer his own question. We can see this simply by putting side by side his own formulations of the problem and of its solution. Unless I have misunderstood his paper, they appear on pages 118 and 122 respectively. The problem is: "When I am thinking of X as being Y or of P as being R to Q in terms of the sentence 'X is Y' or 'P is R to Q', of what is the statement presentative—when it is not the statement of a fact known to me and is very likely not the statement of a fact at all?" The solution is as follows: "This brings us back to the original problem, *what* am I thinking when I am thinking of X as being Y. The phrase 'to think of . . . as' itself gives us the clue. It simply means to think of X as if it is (or were) Y, *i.e.*, to think of X in the same way as one would think of it if it were Y and —we must add—one knew it." The second of these passages does not seem to be an answer to the first; Mr. Ryle seems to have shifted his ground in the meantime. We receive the same impression more clearly if we put the problem more directly than Mr. Ryle does. "If propositions do not exist, what is the object of the thinking that is not knowledge? All consciousness has its object, and the natural object of the consciousness that is thinking but not knowing is a proposition. If you deny the reality of propositions, you must explain what the object of this thinking is." Surely the passage quoted from Mr. Ryle is no answer to this; but, unless I have misunderstood him, it is meant to be.

So far is Mr. Ryle from answering his own question that his account of " thinking of X as Y " is actually that it is *imagining* X as Y or imagining the statement " X is Y ". He says that to think of X as Y is to think of it " in the same way as one would think of it if it were Y and—we must add—one knew it ". To think of X as Y is thus in some sense the *same*, according to Mr. Ryle, as to know that X is Y. What sense can this be ? Obviously not that thinking of X as Y *is* knowing that X is Y ; that would be absurd. How else can the two activities be the same ? Surely only because the activity of imagination, and the image *in* which we think or know, are the same in both. Thus Mr. Ryle's account of thinking of X as Y is that it is imagining the sentence " X is Y ", or having some visual image of X as Y, just as one would in knowing that X is Y. This interpretation of his meaning seems to be confirmed by the words immediately following in his paper. " Now if X were Y and I knew that X were Y, then in thinking of X what would be the sentence that I would think in ? Surely in the sentence ' X is Y '. So, too, when I don't know that X is Y, in thinking of it as being Y, I shall be thinking of it in the statement ' X is Y '."

Next I want to maintain that the right answer to Mr. Ryle's problem is that it is a false problem. By a false problem I understand one that cannot be solved because its very formulation implies a falsehood. The question, " What is the object of the thinking that is not knowing ? " implies that such thinking has an object, and this is false.[1] Intentionality is a loose dogma, true in one sense and false in another. In the sense in which it gives rise to the theory of propositions it is false. In the strict sense there is only one form of consciousness that has an object, and that is knowing or the act of apprehension. All other forms of consciousness may be said in a loose sense to have objects, because they all involve knowledge (as Mr. Ryle brings out for all forms of thinking), and hence involve the objects which that knowledge involves. But they do not have their own peculiar objects as knowledge has, which is what the vague doctrine of intentionality encourages us to think. There are, for instance, no objects of opinion or of desire corresponding to the that-clauses with which we should express what we opined and what we desired. I may opine that Greek will be forgotten. Now there is no object corresponding to the statement " Greek will be forgotten ", and so strictly speaking the doctrine of intentionality is false. On the other hand, I cannot have this opinion without knowing of the existence of Greek, and of the possibility of its being forgotten, and so on ; and all this knowledge has its object, so that in a loose sense opinion is " intentional " as knowledge is. Similarly, if I desire the defeat of the Labour government, there is no object corresponding to the phrase " the defeat of the Labour government ", and so here

[1] I owe this view to Professor Prichard, but I do not think he would approve of my presentation of it.

too the doctrine of intentionality is strictly speaking false. On the other hand, it is impossible to have this desire without knowing that a Labour government is now in power, and that it could be thrown out, and so on; and since the desire involves this knowledge it also involves its objects, so that in a vague sense the doctrine of intentionality is here too right, or at least plausible.

This point may also be put in the following way. The word "object", in its epistemological use, is the correlative of knowledge and of knowledge only. What we mean by it, although we usually do not realise this, is "a fact which is known considered as a fact which is known". What makes us think of it as something wider is the similarity of the verbal means by which we describe all kinds of consciousness. For every kind we can use a that-clause: "the knowledge that I am seasick", "the opinion that I shall go on being seasick", "the desire that I may cease to be seasick", "the feeling that I have a headache". Since in the first instance the that-clause describes an object, we naturally suppose that the others do so too. But this is a mistake. Whereas in knowledge we must distinguish between the object known, the knowing of it, and the statement or image in which it is known, in opinion and other states of mind the first of these falls away, and we have only the opining and the statement or image in which it takes place.

The true answer, then, to the question "What is the object of states of mind other than knowledge, if it is not a proposition?" is that the question is false because there is no object at all. And this answer is necessary to the defence of Mr. Ryle's conclusion, that there are no propositions; for we shall continue to be uneasy about this conclusion until we see that what is worrying us is the assumption that all kinds of consciousness have objects, and see why we entertain this assumption and that it is false.

Lastly, I want to go through the arguments that Mr. Ryle has collected, but not refuted, in favour of propositions, and show that with the above considerations in mind it is possible to see why they seem plausible.

(1) Pp. 92-95. The first argument is that of intentionality: all acts of consciousness have "accusatives", and when the acts are judgments the "accusatives" are propositions. I have already drawn the teeth of this dogma by showing its vagueness, and how it takes advantage thereof to lead us from a true but irrelevant assertion (that all acts of consciousness involve the object of the knowledge which they involve) to a relevant but false one (that all acts of consciousness have their own objects). The superficial appearance of universal intentionality in consciousness is due to the facts (1) that the same grammatical form of that-clause describes the content of all forms of consciousness, and (2) that all other forms of consciousness involve the act of knowing, and that knowing *is* intentional.

(2) Pp. 96-97. Mr. Ryle gives an argument from the reality of the physical world, which may be summarised thus. The physical

world is real and independent of us. Therefore the objects of our apprehensions are real and independent of them. But the objects of our consciousness are not merely the physical world, but also "universals, numbers, laws and relations as well as 'judgments' or propositions". These entities therefore are also real and independent of us. I am surprised that Mr. Ryle should have thought it worth while to notice such a puerile argument. From the premiss that the objects of our *apprehensions* are real and independent of us it does not in the least follow that the objects of *all our forms of consciousness* are real and independent of us; and in fact, as we have seen, the forms other than apprehension have no objects at all.

(3) Pp. 97-98: the argument from logic and mathematics. These studies are obviously true, and on the other hand concern neither the physical world nor our subjective processes. Therefore they concern a world of propositions. The conclusion clearly does not follow. It assumes that only three modes of being are possible, that of material things, that of our minds, and that of propositions. But we have no ground for excluding an infinite number of modes of being; and on the other hand we have good ground for saying that the being of the objects of mathematics is not that of propositions, since, whereas the objects of mathematics are all true, propositions may be false. All that mathematics really demands is the reality of universals and universal laws, which are different from the realm of propositions because, even if they are a part of it, they cannot possibly constitute that most characteristic part, the false propositions.

(4) P. 98. "The slightest consideration of what is meant by 'true' and 'false' compels us to say that if my judgment that X is Y is true, then it is true that X is Y whether or not I judge it; or if I think falsely that X is Z, then it is false that X is Z whether or not I think it. Truths are not made true by being believed; and not even by being vehemently believed are falsehoods made true. So that it is true (if it is true) that X is Y and false that X is Z, independently of the existence or the degree of intensity of anyone's belief in those propositions."

This is an extremely puzzling argument. We can perhaps see through it by the two following considerations: (A) Part of its strength comes from its appeal to something *independent* of our thinking. We all agree that there is something independent of our thinking, and by the way in which this passage is worded we are made to feel that it must be the realm of propositions. But if we put the passage itself out of mind for a minute, and ask what this independent something that we are aware of is, we at once recall that it is the real world. It is because the real world, whether physical, spiritual, or universal (or in any other part or aspect of itself), is independent of our thinking that it is true that X is Y and false that X is Z independently of whether anyone believes those statements or not. It is because the real world is what it is, and

is not what it is not, that "X is Y" is true, and "X is Z" is false independently of our beliefs. (When Mr. Ryle goes on to imagine the defender of propositions appealing not merely to independence but also to timelessness in "X is Y", it will be sufficient to reply that it is just as difficult to say in what sense the proposition corresponding to the statement "I am now on board the *Rotterdam*" is timeless as it is to say in what sense the temporal events of the real world may be called timelessly real.) (B) By what means, now, does our passage manage to give the impression that the independence we are aware of belongs not to the real world as ordinarily conceived, but to propositions? By using the ambiguities of the words "truth," "true," "false," etc. It is not worth while here to pursue these words through all the runs of their mazy warrens. It is enough to notice the main point, which is that "a truth" may be either "a true statement" or "a fact, considered as what is stated by a certain true statement whenever it is uttered". The connexion between these two things makes it clear why the same word should mean both; but the difference between them makes it equally clear that the logician who does not notice the ambiguity is lost. When we say "it is true that X is Y", both senses are present to our minds without being distinguished. The first prevents us from thinking of X's being Y as just a fact in the real world; the second prevents us from thinking of "X is Y" as just a statement. The tension between these two different but undistinguished senses produces an entity that is partly both but not exactly either, that is to say, a proposition, which is something like a statement and something like a fact, but different from each. The only legitimate meanings of "it is true that X is Y" are these: "X is Y", "the statement 'X is Y' is true whenever it is made, or would be true if it ever were made", and "X is Y, and therefore the statement 'X is Y' is or would be true". None of these meanings involves the reality of propositions.

(5) P. 100. We must distinguish between the meaning of a person's statement and the mental condition in which he makes it. But this is "*ipso facto* distinguishing a mental process on the one hand and a proposition on the other." It is true that a significant statement means something, and that what it means is usually not the mental condition of its utterer; but it is not true that what it means is a proposition. The meaning of a true statement is the fact that it states; and the meaning of a false statement is the fact that it would state if, being the same statement, it were nevertheless true. The reason why we are inclined to object to this is that we tend to feel that that which is meant by any statement must be something that is real; and since the fact meant by a false statement cannot be real, there being no such fact, we feel that a false statement must mean not a fact but a proposition; for whereas there cannot be a real false fact, there can be a real false proposition. The cure for this state of mind is simply to realise the error of the assumption

that that which is meant by any statement must be something that is real. Every statement means a fact (it is of the essence of statement to assert what it asserts as fact), but only in the case of true statements does the fact meant exist. Just as I can hope that my friend got safely home, whether he did or not, so I can make a statement that states, asserts, and means, that he got safely home, whether he did or not. The statement that X is Y no more involves the reality of anything corresponding to it than does the hope that X is Y. It is no more paradoxical to say "Every statement has a meaning, but that meaning is not necessarily real" than it is to say "Every person has desires, but they will not necessarily come true". We do not need propositions to explain the possibility of false statements.

(6) P. 101: the argument from the possibility of inter-personal communication. "This requires not merely that a linguistic code be public property, but, much more, that *meanings*, *i.e.*, concepts ('word-meanings') and propositions ('sentence-meanings') are public property." Communication requires a common language, and a certain degree of common knowledge of the things that the language is used to mean. But what do we use language to mean? What are its *meanings?* Not concepts and propositions, as is here suggested, but *reality itself*. Our words are intended to represent real entities; our sentences are intended to represent the facts. If language did not refer to the real world, but only to concepts and propositions, it would be useless.

The other arguments that Mr. Ryle gives in favour of propositions are refuted by himself.

RICHARD ROBINSON.

VI.—CRITICAL NOTICES.

Contemporary American Philosophy. Ed. by GEORGE P. ADAMS and W. PEPPERELL MONTAGUE. London: George Allen & Unwin, Ltd, (Library of Philosophy), 1930. Vols. I. and II. Pp. 450 and 447. 16s. each.

IT has been a pleasant, if arduous, experience to read consecutively thirty-four 'personal statements' by leading American philosophers. The work is a companion to the recently-published *Contemporary British Philosophy*, and shows that philosophy is quite as much alive in the United States as it is in Great Britain. Indeed, the quality of many of these contributions is very high and leaves one in no doubt as to the importance of American thought. None the less, some of the papers are weak, and we almost believe that a better impression would have been created, if the editors had taken their courage in their hands and definitely rejected four contributions. This would still leave us with thirty fully worthy of a place. To be blunt, the chief defect of these pages, we imagine, lies in the inability of the contributors to call a spade a spade; and the resultant obscurities in thought and statement are the more irritating when we remember that many of these men were disciples and close acquaintances of William James. This charge, however, is a general one, and there are, fortunately, many individual exceptions against whom it could not be made. The strength of contemporary American thought, on the other hand, lies obviously in its vitality and enthusiasm. There are few stagnant waters here. And although one ought not to disregard the note of despair in some of these papers, it is an attitude foreign to the general trend.

To be faced with a sudden demand for a statement of one's philosophical beliefs together with an account of one's development as a thinker is no doubt an unnerving experience. And when a clause is added to the effect that the statement is to be limited to fifteen or twenty pages the task becomes all the more difficult. It is necessary to bear this in mind when attempting to estimate the value of these contributions. Beliefs are given as if dogmatically, frequently, no doubt, because the authors have no space in which to develop their themes. But if we are to have 'omnibus' volumes in philosophy as well as in fiction and general literature, then we must be prepared for such defects. On the whole, the editors have done their work well. The book does show the main trends of American thought, and it

does give us real insight into the minds of the leaders. Some of the contributors have largely disregarded the demand for biographical details: others have given little else. But, at the least, the date of birth and the academic office held has been provided in each case. Personally, we should have liked to have learnt something of the younger generation's thoughts; but apparently one simply cannot become a contemporary American philosopher until one has passed the age of forty-five.

To open the work the editors have taken a page from Plato. They have invited an old man first to speak his mind; and something of the charm of the ancient Cephalus has been recaptured by his modern counterpart. The book is dedicated to Emeritus Prof. G. H. Palmer, of Harvard, and it is he who writes the opening essay. Prof. Palmer, who will be ninety next year, having watched the development of American philosophy through two generations, has many excellent things to say on the arts of teaching, lecturing and writing. He provides us with a concise account of his ethical and religious beliefs and shows how they are related. His opinion of the young philosopher to-day is instructive. "At present too little history (of philosophy) is studied. Our young philosophers lack balance. Fifty years ago they lacked courage." As to his own life, his last word is: "Some greater power than I has been using me as its glad instrument." He looks back with satisfaction and yet without conceit over life's journey, and in the strength of his faith looks forward peacefully even to death—"a deeply interesting but not appalling adventure". The editors could hardly have opened their volumes in a happier fashion than they have done.

Prof. Dewey's contribution, which opens the second volume, is also largely biographical, though much shorter than that of Prof. Palmer. He feels that his work has been, and is, a constant emphasis on four points, namely, the increasing importance to a civilised community of the practice and theory of education, the need for a unification of 'science' and 'morals', the demand for biological interpretations whenever possible, and the recognition of the importance of "distinctive social categories, especially communication and participation". Other contributions which are largely biographical are those of Prof. E. A. Singer, Jr., and the lively statement of Prof. H. C. Brown.

Because of the limitations on our space all we can do with the remaining papers is to seek to determine with their aid the main currents of contemporary American thought. First and foremost, one notes the great influence exercised by past teachers. In particular, the influence of Royce and James is very evident. Royce, with much force and powerful logic, set forward explicitly the dominant philosophical beliefs of his day. These were Idealistic in character. James was the rebel (influenced by English Empiricism, by Renouvier and Peirce) who gave academic expression to certain non-academic and non-Idealistic trends in the thought of his countrymen. It is not too much to say that the debates which they started amongst their students

in the Harvard classrooms are still alive in America and indeed form the core of the present work. In the eighties and nineties of the last century Idealism for the most part had the field to itself; as Prof. Lovejoy remarks, " to question it was simply to betray one's want of a genuine initiation into philosophy " (ii. 85). To-day, if we are to judge by these thirty-four statements, Idealism is not even the leading school, but takes second place. And yet it would be a mistake to suppose that Idealism is dead or even dying in America. On the contrary, if unorthodox as well as orthodox Idealism be taken into account, the strength of the Idealist camp is still great. By orthodox Idealism we mean the Absolute Idealism of Hegel and the English Idealists, and in Prof. M. W. Calkins we find a worthy member of this school. We might also mention here the contribution of Prof. De Witt H. Parker. The conclusions to which Prof. Calkins has come are four in number. Firstly, such things as mental entities exist. This point she regards as important and returns to emphasise it at the end of her essay. Secondly, mental entities are in their essence personal; my experience of my own self tells me so much. Thirdly, the universe is through and through mental in character, for all we can know is our selves and our experiencings, " clearly a mental reality " (i. 205). Fourthly, the universe literally is one all-including Absolute Self of which lesser selves are parts. In delineating the character of the Absolute Miss Calkins permits herself to be slightly heretical. Not only is It all-inclusive, eternal and changeless, It is also conscious as thinking, feeling, willing. It even enjoys sense-experiences. " The Absolute must indeed have sense-experience, must feel regret and longing " (i. 213). Yet in spite of this slight heresy Miss Calkins is still amongst the orthodox school. and this becomes particularly apparent when we compare her position with that of the unorthodox. A new type of Idealism seems to be emerging in America. It is more anti-Naturalist than anti-Realist. In opposition to orthodox Idealism it puts its stress on the reality of time, and on the reality of the individual and the finite person; while it yet remains Idealist in its emphasis upon the reality of values, and upon the view that Existence can ultimately find its explanation only in terms of value, something itself spiritual rather than material. That external influences have worked upon this group is obvious. The new American Idealist has studied his Bergson as carefully as he has studied Hegel. Croce, also, no doubt, has helped to point the way. But the new thoughts are taking their own course in America, and one awaits their further development with much interest. Morevoer, it is only fair to add that long before Bergson and Croce, Howison was teaching in America a pluralistic and ' temporalistic ' Idealism. Amongst the present contributors we may cite Profs. Watts Cunningham and J. A. Leighton, who, whilst terming themselves Idealists, stress the reality of time, and of individuals in time. The former attempts to show how the conception of the Absolute is still possible in a world of change; the latter finds a progressive Absolute necessary. The universe is a

" hierarchical system of individual wholes " (i. 432); and we need to improve the individual to improve It. In this way Idealism is combined with Humanism. Again, we have the definite leaning towards some form of Idealism which characterises the writings of Profs. W. M. Urban and G. P. Adams. In their case it is a stress on values which leads them to revolt against Materialism and Naturalism. Prof. Urban summarises the position stated in his recently-published work, *The Intelligible World: Metaphysics and Value*. He has realised that Naturalism cannot answer the difficulties that arise from his study of the problem of values. Any intelligible philosophy must rest its ultimate explanations both of origin and destiny upon value judgements, and in this sense the Naturalism that conceives of values as merely the product of human life cannot be an intelligible philosophy. Prof. Adams' Idealism—if indeed he is to be classed with the Idealists, for he might quite as easily be classed with Realists—is of a still more tentative character. Philosophy searches for 'meanings'. Its field is " the meanings embedded within experience which require reflection and theory for their apprehension and their clarification " (i. 68). The true problem for the metaphysician is the determination of the real world's character. Naturalism and Idealism are solutions examined by Prof. Adams. The 'given' though it brings something objective with it has to be interpreted, and in this interpretative effort subjective elements enter. Hence the problem: How far do we by " the apparently subjective and merely internal elaboration of the given " succeed in establishing contact with the real world? Prof. Adams himself provides no definite solution of the problem, but he feels that " in some manner meanings and values are integral to existence and to reality " (i. 85). We should mention in this connection two further contributions. The late Prof. R. M. Wenley writes on " An Unborn Idealism " and Prof. Warner Fite on " The Impersonal Point of View and the Personal ". The latter contribution is fresh but odd. Philosophy, he thinks, ought to state the personal point of view. To be impersonal is to be abstract and to miss the truth. The true life is the inner life of the individual. " Everybody's world ", the world of the market-place, is more fiction than reality, " an artificial construction for practical purposes " (i. 372). Likewise, knowledge can only exist as the self-revelation of one person to another; things are 'dealt' with rather than known. If his view is to be named at all we should call it, he thinks, a "personal Idealism "(i. 362). We ought, perhaps, also to include within this paragraph as writers tending to Idealism the names of Profs. H. B. Alexander and W. E. Hocking. The latter in a short but valuable contribution points out in what ways he is a Realist and in what ways an Idealist. He adds five " second principles " which we wish we had space to detail adequately. With regard to contemporary American Idealism, then, we may conclude that it puts more stress upon the individual and the person than on the Absolute. And by stressing the individual it stresses his values

and demands that these be recognised as pertaining to the ultimate structure of the universe.

No doubt the influence of Pragmatism helped tremendously to modify the absolutism of the Old Idealism. Pragmatism was the first expression of dissatisfaction with the prevailing Idealism. But it was too crude a philosophical belief to gain many open adherents. Not one of these thirty-four writers is a professed Pragmatist. At the same time, scarcely one of them is untouched by Pragmatism, and by the relativism it introduced. Pragmatism revolted against the absolutism of the Absolute Idealists, even though it retained many 'idealistic' or 'subjective' elements. Its influence may be observed in the Meliorism, the Humanism and the Instrumentalism in this book. Prof. Dewey's Instrumentalism is too well known to need comment here. Prof. Durant Drake rejects Pragmatism as such, but like many another in America to-day believes that the final aim of all thinking is the increase of human happiness. In Prof. J. H. Tufts we have a good example of a philosopher who identifies philosophy with Social Reform. Ethics is based on a combination of sociology, history and economics. It is "watching the forces and ideas at work in the societies of America, of Europe, and in the not distant future of Asia" (ii. 348). And the student of Ethics watches in the hope of gaining knowledge which he may use for social amelioration. Prof. Tufts himself shows how experience on an arbitration board taught him that such ideas as honesty, justice, etc., are essentially relative and vary with variations in circumstance. The relativism and the demand for an 'applied' rather than a 'pure' Ethics in this paper are both essentially Pragmatic traits. If we turn to logic and epistemology we find what is perhaps the strangest development of Pragmatism in the subtle and fascinating contribution of Prof. C. I. Lewis. Reflection upon certain paradoxes of formal logic led him to the conclusion that there are many logics, each of which claims for itself perfect consistency. Consequently, whenever we come to know a truth by reasoning, more than logic is involved. "The study of exact logic itself had revealed unmistakably that in every process of reasoning there must be an extra-logical element" (ii. 42). Logic gives many possible conclusions. The mind decides on one as *the* conclusion not logically but "by psychological obviousness or by some purpose or interest". We are not clear as to the meaning of the term 'psychological obviousness' here, but the 'purpose or interest' introduces Pragmatism, as Mr. Lewis himself says, into "the citadel of rationalism", namely, logic. Mr. Lewis goes further. What logic does is to give us conceptual systems that are consistent. With these we seek to interpret experience; for "experience never supplies its own conceptual interpretation" (ii. 46). In the light of our needs we order the 'given' of experience according to one or other of these conceptual systems. It is the philosopher's task to define and determine the latter, the *a priori* elements in all knowledge. (Is it not also the philosopher's task, and particularly Mr. Lewis', to show

how the 'given' of experience allows itself to be ordered by such conceptual systems?) Even Reality is prescribed by us. Reality is the 'given' as interpreted according to conceptual systems, mental, physical, mathematical and so on. There can be no doubt that the emphasis on the importance of conceptual systems in our cognitive experiences in this essay is sound, but the subjectivist interpretation of the position brings out another element in Pragmatism. We have already suggested that Pragmatism managed to retain some of the worst features of the older Idealism. Here is a case in point. It carried forward the ever-present possibility of a lapse into subjectivism which marred Idealism—a subjectivism which ended invariably in scepticism. We think we perceive something of this subjectivism in Prof. Lewis' contribution. It also mars the otherwise excellent contribution of Prof. J. Loewenberg. Of Reality, he thinks, we know nothing with certainty. It is "the *inexhaustible* source of problems" (ii. 57). His Realism he terms Problematic. That something exists is obvious; difficulties arise when we try to describe it. We must describe in judgements, but we cannot be certain that our description in judgements applies to *this* particular substance in Reality to which we wish to refer. There is also the difficulty that arises from the fourfold character of the judgement, the personal, the formal, the noetic and the material. Loewenberg comes to the conclusion, "I am forced to the inference that the real as judgmentally qualified can never coalesce with the real as internally qualitied, which is to say that the inherently adjectival nature of reality is for human knowledge problematic" (ii. 71). Truth, therefore, must be regarded as essentially plastic and variable. The same conclusion is reached by Prof. C. J. Ducasse in a paper showing much originality. To be real is to possess some value, but as values are themselves, for him, subjective, he comes to the following conclusion: "Every critical judgement is ultimately relative to individual verdicts wholly alogical in nature" (i. 324). Every metaphysic, therefore, shows us the "taste, whim, or temperament of its upholder" (i. 305). Therefore, we should tolerate differences in philosophical outlook just as we tolerate differences in taste; for none of us can afford to be dogmatic. The implied scepticism of this contribution has also its counterpart in that of Prof. J. E. Boodin. "The trail of human nature," he remarks, "is, indeed, over all our knowledge. . . . Our categories and judgements, so far as they prove relevant to nature in its relations to us, are true of nature—in those relations" (i. 144). He does admit, however, some certain *a priori* knowledge, namely, our primitive convictions of the real. His contribution is a strange combination of pragmatism, empirical realism and Bergsonian creative evolution. Finally, we have the open scepticism of Prof. De Laguna. Although many of the points made by him are, we think, very sound, he leads us into an impossible position. Not only does science, the highest type of human knowledge, fail to give certainty, but its inductive method cannot even give probability. His scepticism, we

think, ultimately rests on a subjectivism, being, indeed, the final outcome of the Pragmatic revolt against Absolutism.

But such subjectivism as is here illustrated invites attack. It *was* attacked by the New Realists of 1912. They rejected the idea that knowing was in any way a creating, and that the object of knowledge only existed as the result of the cognitive process. "In the end," they held, "all things are known through being themselves brought directly into that relation in which they are said to be witnessed or apprehended". Knowing is a discovery, an apprehending. The most extreme expression of this revolt was Behaviourism, which tried—unsuccessfully, as events have proved—to do away with the subject in doing away with subjectivism. Profs. F. J. E. Woodbridge and E. B. McGilvary are the representatives of this school in the present work, though one notes many modifications in their theories with the passage of the years. None the less, Woodbridge still defines knowing as an adaptation of an organism to the environment, fitting oneself into an order (*cf.* ii. 433). McGilvary combines Behaviourism with a positivist view of the function of philosophy. Its task is "the integration of the scientific interpretations of the world" (ii. 109). Of those who helped to write the 'New Realism' of 1912, two contribute to this issue. We have a frank lively essay from Prof. Perry, who makes it clear that he objects both to the absolutism and to the idealism of Absolute Idealism. "The realist is one who is disposed, until more decisive evidence is advanced, to construe this indubitable relationship of the world to the mind that deals with it, as an accidental or subordinate aspect of the world" (ii. 192). He has, however, room in knowledge for "the corrective work of thought", and even feels that the old divisions of twenty years ago no longer hold (*cf.* ii. 200). Prof. Montague thus defines the 1912 movement: "Our realism was . . . a declaration of independence that would make it possible to investigate the nature of things on their own merits without dragging in the tedious and usually irrelevant fact that they could be experienced by us" (ii. 145). He does not, however, agree with the other New Realists on every point. From the first, he objected to their Behaviourism. Latterly, he has found it equally impossible to concur with the view that the image is in space, or, again, that there exist 'private spaces'. His feeling is that if Realism means giving reality to illusions then he is no Realist. We found the second half of his paper difficult to understand, but think the value of the whole paper considerable. The 'New Realism' was, as is well known, much criticised on its appearance. Objection was made to its physical monism, to its behaviouristic trend, to its unsatisfactory teaching on sensation and to its failure to explain error. To rectify some of these defects seven American philosophers united to produce in 1920 the now famous *Essays in Critical Realism.* As it happens all seven reappear in the present work, and it is exceedingly interesting to meet them once more after an interval of ten years. We wish we had space to compare their 1920 with their 1930 productions, but

we have not enough even to state their present positions adequately. Speaking generally, we may say that the Critical Realists grasped one fact which the New Realists had failed to grasp, namely, that "things are not what they seem". Accordingly, they held, we have, firstly, 'things', secondly, 'what they seem,' and, thirdly, that mental entity to which they appear. Where the first two correspond the mind has knowledge of the truth. Critical Realists, therefore, hoped to overcome the difficulties of the New Realists by introducing a triple division of the cognitive experience, together with a *tertium quid* somewhere between subject and object. But instead of ridding Realism of its difficulties they introduced new and greater ones. The result of their efforts, as is evident from their contributions to the present volumes, was the return of the impossible, indefensible Theory of Representative Perception. "Critical Realism," remarks Prof. Durant Drake, "insisted that any cognitive experience may conceivably be hallucinatory; the awareness of physical objects is not, in itself, evidence that such objects *exist*. Hence we need *three* categories to describe the cognitive situation, the knower (or self, or organism), the object of knowledge (which, in the case of knowledge of an existent, has its own independent existence), and the datum of experience, that of which we are aware. In accurate and literal knowledge the datum is identical with the object of knowledge. But whether knowledge *is* accurate and literal is a matter for inquiry in each case" (i. 284). Prof. A. K. Rogers is equally definite. He first stresses Empiricism as opposed to Rationalism. (We do not feel that his description of Rationalism is wholly satisfactory. Could it be applied to Descartes' Rationalism, for instance?) Then turning to the epistemological problem, he declares roundly: our common world "we can 'know' only through the medium of ideas that are not identical with the objects to be known" (ii. 228). Prof. Sellars is, if anything, more definite still. "Knowing," he holds, "is a looking at objects through the windows furnished by ideas" (ii. 272). Prof. Lovejoy, in a really excellent paper, also thinks we know through 'ideas'. "Knowledge consists in somehow 'apprehending' one bit of existence by means of another which is not identical with it" (ii. 96). Only in this way, he thinks, can we understand error, on the one hand, and our knowledge of the past and of the future, on the other. There is much that would be worthy of discussion in these four papers, but we pass to consider Prof. C. A. Strong's, because it is he who best realises the difficulties of Critical Realism and makes the most serious effort to overcome them. To begin with, he proposes to overcome one difficulty by reserving the term 'object' for the thing itself, and by saying that seeing what we see is the way in which we come to have some knowledge about the real thing or 'object'. This, however, leads him to admit that even to suppose the thing to be at all like what we see is pure assumption. "The thing as experienced may *differ* from the thing as it is, if the impression produced chance to be such as to convey the latter falsely (as in the case

of projected after-images or of double vision), but what is experienced is always meant to be identical both in being and in quality with the real thing; and must be supposed really to be so to some extent, if we are ever to attain to knowledge at all. The assumption of their identity is what Santayana calls *animal faith*" (ii. 318). When he then comes to ask himself the really important question for any Critical Realist, "What security have we that in any case whatever the real thing is as it is experienced as being?" the answer he gives (ii. 321 ff.) is very weak and shows how wholly unsatisfactory is his (and Critical Realism's) attempted solution of the problem of knowledge. If it frees us from the difficulties of the New Realism, it does so only by bringing us back again to the subjectivism and scepticism of Idealists and Pragmatists. For if I never know an object directly but only indirectly by means of a representation, how can I know whether the representation ever does represent what I suppose it does? (In company with this group we should mention the weighty and valuable contribution of Prof. A. C. Armstrong setting forward a symbolic Realism.) Of the two contributors to the *Essays on Critical Realism* that remain, Profs. J. B. Pratt and Santayana, the former seems to be gradually working his way back to some form of Idealism. His contribution is very entertaining as revealing a thinker, who, whether right or wrong, never failed to 'follow the argument' wherever it took him. Prof. Santayana writes in his usual felicitous style. His essay is marked by its stress upon Naturalism on the one hand, and upon the importance of the imagination, together with its 'essences', on the other. Knowing itself is identified with imagining as one form of the latter. "Knowledge accordingly always remains a part of imagination in its terms and in its seat; yet by virtue of its origin and intent it becomes a memorial and a guide to the fortunes of man in nature" (ii. 255). While it is impossible not to enjoy anything which Prof. Santayana chooses to write, one cannot but feel throughout a suspicion of a certain trifling in his work, which becomes the *littérateur* well enough, but which cannot be forgiven in a philosopher. The good qualities of Santayana's work may ultimately overcome this suspicion; but for us, at least, it is there.

Prof. Santayana's contribution leads us easily to the consideration of another important tendency in contemporary American thought, namely, Naturalism. Its main characteristics are defined for us by Prof. Sellars. Naturalism stands for "(1) the self-sufficiency of nature as against popular supernaturalism or the sublimated sort called transcendentalism; (2) the basic significance for our world of space, time, and causality; (3) the denial of concentrated control in the universe, and, in this sense, the acceptance of pluralism; and (4) the rejection of the primacy of the mind" (ii. 274). The main tenet is, perhaps, the fourth; and it carries with it a particular view of the mind-body relation which links this school with physical monism. Life and mind can only have originated in the inorganic. As Prof. W. G. Everett remarks, "Whence and how the seeds of life could be

injected into matter from without baffles the imagination and finds no analogue in any known process of nature " (i. 335). But the material universe, though it has produced life, gives no guidance as to the best life. Our values hold only for us. The universe as a whole is indifferent to them. In Prof. Morris R. Cohen we find an exceedingly able exponent of a type of Naturalism which he terms a ' naturalistic rationalism '. We ought not to confine Reality, he thinks, to the concrete. Abstract formalities are also fully real. As a matter of fact, certain knowledge for us is wholly of the abstractly formal in logic and mathematics. Thus logic gives us information of the form of all being. " Logical laws are neither physical nor mental, but the laws of all possible significant being " (i. 228). Throughout all being he also notes the persistence of " a balance or equilibrium which makes description in the form of equations applicable " (i. 229), together with an underlying polarity, or " necessary opposition in all determinate effects ". In this way many facts which to all intents and purposes seem paradoxical owe their apparently paradoxical nature to their complexity, and to the opposition contained within them. Bearing this in mind we shall avoid " one-sided and indeterminable (because indeterminate) issues " (i. 230). Thus when we consider the problem of the unity of the Universe, it is essentially an indeterminate issue, which we cannot hope to solve adequately. All sorts of contrary propositions may be true of it, because of the oppositions within it. Whether the Universe has any greater unity than has a heap of stones we cannot say. With regard to the natural world and the natural sciences, he shows that the world if genuinely pluralistic—as he believes it is—" cannot be completely determined in all respects " (i. 236). Therefore, to discover laws is not to rule out the element of chance or contingency. Again, he rejects the concept of mental life apart from body, but admits that consciousness is unique, " a real addition to the phenomena of nature. . . . How it originates and what sustains it seem to me to be empirical and not metaphysical questions " (i. 239). As to ethics, his point of view accords with that of other members of this school. Viewed naturalistically, " the whole life of the human species is a minor episode in the history of a tiny speck of cosmic dust ", but ethical problems are none the less real for us, since our need is wisdom in the conduct of life. He also discusses Art, Law and Religion from the standpoint of naturalistic rationalism. His philosophy as a whole is clearly one of indeterminism and indefiniteness, honestly and powerfully stated. It expresses the opposite, we should think, of the other view rather quaintly expressed here by Prof. A. K. Rogers : " Personally, I get no kick out of sheer mystery and unintelligibility " (ii. 231). Prof. Cohen does not of course delight in unintelligibility, but rather finds it to be the actual fact with regard to many problems. None the less, we think there are some clues to which he might have given greater attention, as, for instance, the existence of a knowing mind in the Universe.

We have thus attempted to give some idea of the variegated fare

provided the reader in this work. We are well aware how little justice has been done to the various writers. Most of them deserve much greater notice than we have been able to give them. But we hope we have made clear the main lesson of the book, namely, that the dogmatism of seventy years ago which became the absolutism of the eighties and nineties has completely disappeared from American thought. On all hands, one finds uncertainty. For instance, in epistemology, which is, we imagine, the special interest of the large majority of these writers, the Realist schools are as insolvent as the Idealist and the Pragmatic. One is tempted to believe that the explanation of the failure both of New and Critical Realism lies in a faulty analysis of the sensory experience, and that if this were righted some progress might be made. But, however it be explained, the fact of failure in spite of very hard thinking is apparent enough. As to the future we shall not try to prophesy. Some of these writers, it is obvious, are destined to play a leading part in the philosophising of the next two decades. Yet, we must confess to a sense of disappointment with the work as a whole. America, to-day, has no clear lead to give the philosophical world. We do not suggest that philosophising is at a low ebb there—nothing could be further from the truth. But we found ourselves coming to the end of the book wholly unsatisfied, however well entertained. The old Absolutism has vanished, but the new Relativism which has come in its place is, as yet, confused and indistinct.

R. I. AARON.

The Child's Conception of Causality. By JEAN PIAGET. London: Kegan Paul, 1930. Pp. 309. 12s. 6d. net.

IN this volume Piaget gives us another monumental collection of records, this time of children's explanations of movement, of force, of machines and related topics. These explanations are offered by the children in response to Piaget's ingenious experimental situations and close questioning, and are thus of the kind that the author termed, in his last book,[1] "liberated beliefs". That is to say, they arise on being questioned, as formulations of beliefs hitherto implicit and unquestioned by the child himself. They are spontaneous in form and content, although not in occasion.

The whole series of records is of extraordinary interest, quite unique in the protocols of child psychology, and the details not to be missed. The experiments and elicited views of children cover the nature of air, the origin of wind and of breath, the movement of clouds and the heavenly bodies, water currents and movements due to weight, force as explanation of movement, the floating of boats, the level of water,

[1] *The Child's Conception of the World*, reviewed in this journal, vol. xxxviii., N.S., No. 152.

the problem of shadows, the mechanism of bicycles, of engines, trains, motor-cars and aeroplanes. In a final section, the different aspects of the child's notions of causality are gathered up in a summary, and the relation between these ideas of causality and the child's ontology at corresponding phases of development is brought out. The ground covered by the earlier volumes is stated afresh for this purpose.

The child's thought moves (1) from realism to objectivity (*i.e.* to the ability to distinguish internal from external reality); (2) from realism to reciprocity (*i.e.* the ability to give the same value to another's point of view as to one's own); and (3) from realism to relativity (i.e. the ability to posit characters or qualities without giving them absolute substance). Each of these developments is gradual and shows many stages. With regard to the first, the movement towards objectivity, many "adherences" remain at every stage—*i.e.* fragments of internal experience which still cling to the external world. In the earliest phase, there are the feelings of "participation" and magic; then follows animism, then artificialism, then finalism; and the last form of adherence is given in the child's notion of force, which is that things (projectiles, machines, etc.) make efforts, and their powers imply an internal and substantial energy analogous to our own muscular force. The progressive disappearance of these "adherences" seems to be proportional to the increasing clarity with which the child becomes conscious of his subjectivity.

In the second process of evolution of the idea of reality, the child passes from a realism of perception to interpretation, and from a crude logical realism to reciprocity of relations. In the third movement, from realism to relativity, the child learns to modify his notions of absolute substance and quality (as shown in his notions of life and movement, or of weight), by the experience of relations. A weight, for example, ceases to be absolutely heavy or light, and is seen now to be heavy or light in relation to other bodies or to the chosen unit of measurement.

Of these three changes (which of course go on together), the movement towards reciprocity is of a purely social nature, the child replacing his own individual and egocentric point of view by the point of view of others and reciprocity with them. That towards relativity is purely intellectual, the child replacing his substantivism of perception by the relativism of intelligence. The third, towards objectivity, is both social and intellectual, the child becoming aware of his "I", and clearing external reality of all its subjective elements. But it is, above all, social life that forces the child to become conscious of his "ego".

Piaget thus again emphasises the importance of social life as a stimulus to rational development. Without it, he thinks, the child could never attain to objectivity, for he would never discover his own subjectivity.

Coming then to the evolution of the idea of causality in the child's

mind, Piaget's gathered evidence suggests that it follows very much the same lines as those of his ontology. Grouping the facts discovered, seventeen different types of causal explanation can be made out in the child's thought. This series of causal types seems to me to be one of the most important contributions which Piaget has made to the general analysis of thought and its genetic history. The different types overlap to some extent, as one would suppose. They are: motivation (the most primitive and the longest enduring—"God sends us dreams because we have done things we ought not to have done"), finalism, phenomenistic causality (the Humian conception, two facts given together in perception being held to have causal connection), participation, magic, moral causality, artificialist causality, animisitic causality, dynamic causality (after animism proper has gone there still remain in objects forces capable of explaining their movements), reaction of the surrounding medium (the first genuinely physical explanation), mechanical causality, causality by generation (for the origin of things), substantial identification (closely related to the last-named), condensation and rarefaction, atomistic composition, spatial explanation, and lastly, explanation by logical deduction. Now the incidence of these seventeen types of causal thinking shows that the development of thought falls into three main periods. In the first, all explanations are of psychological, phenomenistic, finalisitic and magical types. In the second, they are mainly artificialist, animistic and dynamic; and in the third, these earlier forms disappear progressively, giving place to the other, more rational types. And the whole process of change appears to be characterised by three main modes: the desubjectivation of causality, the formation of series in time, and the progressive reversibility of the systems of cause and effect.

At many points in this discussion, Piaget inevitably comes close to the border-line between psychology and epistemology. He makes deliberate efforts not to cross that line, but to keep within the safe scientific field of psychology. Nevertheless, we cannot help feeling that his theoretical analysis of the concrete psychological facts suffers a little from his own indeterminate position in metaphysics. He cannot accept wholeheartedly enough the reality of the external world, as any good psychologist must. His discussion, under the headings of *imitation* and *assimilation*, of the relation between the child's growing mind and his actual experience, is thus formal, and hence indecisive.

Apart from this, however, Piaget, when he moves more freely within the strict psychological field, does bring out most illuminatingly the inter-relations between the different characteristics of children's thought at any one period, and the cumulative changes that can be seen from year to year of mental growth. We still feel that certain qualifications and corrections need to be made before a finally just picture of the child's mental life is reached. There is always more elasticity, more movement, more life, more variety, more foreshadowing

of later modes within the earlier, than Piaget's preoccupations with types and stages allows us to see. But what a magnificent wealth of genetic fact his patience and his genius for inquiry have brought to the psychology of cognition!

There is one major point on which we find ourselves still at issue with him, *viz.*: the relative importance of the social and the physical factors in the child's movement towards objectivity. As indicated, Piaget puts all the weight upon the social factor, and this is itself placed very late in development, at seven to eight years. On his view, interest in other people, and the clash of their contradictions and criticisms, awaken the sense of a world outside oneself. But there would not seem to be any *a priori* reason why this should be so, nor why the child's conception of the physical world should not be the direct inheritor of his active experience of physical objects and events. Nor can we see anything in the facts themselves to make us feel that physical concepts are not born from physical percepts. There seem to be no grounds for *interposing* the social world between the child's direct physical contacts, the direct compulsions which the physical world exercises upon his wishes and his activities from the earliest age, on the one hand, and his later notions of its character on the other. He has a continuous experience, certainly from the end of his first year, when he begins to crawl and explore, of the inexorable *outsideness and indifference* of physical things and events.

It is true that these qualities are not readily accepted with equanimity. We should *like* to command the tide and order the seasons. We do at first try to scold and punish the offending floor for hurting us when we fall upon it, as if to prevent it doing so another time. But we find only too soon that the floor takes no notice of our objurgations and remains the same to-morrow as to-day. People and animals we can cajole and threaten and appease; tables and chairs, flames and hot water, the light and the dark, we have to respect *in fact and in behaviour*, whatever our phantasies may be. It would seem extremely probable, indeed, that it is this unmoved, unchanging externality of the physical world that slowly weans us from our subjective schemas, slowly convinces us of the differences between desire and reality. And it is precisely in the social world, in our relations with our fellows, that the most primitive mental mechanisms keep their hold longest and most firmly.

The early egocentrism, magic and finalism of the child cannot of course be challenged. Nor is there any reason to doubt that the general course of development is very much as Piaget sets it out for us. His uncovering of the child's inveterate moralisation of the world in the earliest phases of thought is fully borne out by the results of the psychoanalysis of young children. Some of the most recent psychoanalytic studies have been concerned with the child's earliest efforts to deal with experienced *privation* by feeling it as *frustration*. And one of the most striking discoveries has been the early onset of the feeling of guilt and moral responsibility. There is no doubt that the

first world of the child is a *moral* world, as Piaget too is able to show. The first law is the law of moral necessity, and it is a far path of development from this to logic and the law of science. But we do not think it can be maintained that the child waits to set his feet on this journey until social interests call him. The experience of contrary opinion must certainly give him a new impetus ; but the pressure of physical events surely acts continuously throughout early childhood. The child is forced pragmatically to give up most of his subjective schemas in the physical world; and he gives them up first in the most immediate fields, where his own adaptive action will count the most heavily.

Piaget promises us to turn his attention to still earlier years of childhood than he has yet investigated, to the processes of " assimilation " in the minds of children in their second and third years. We think it likely that these further researches will reveal a greater continuity of development from the first behaviouristic and perceptual adjustment to the physical world, to the later conceptual handling of it, and a more continuous penetration of subjective schemas by the experience of physical objects and changes, than Piaget has yet seen.

SUSAN ISAACS.

Studies in the Philosophy of Religion, partly based on the Gifford Lectures delivered in the University of Edinburgh in the year 1923. By A. SETH PRINGLE-PATTISON, LL.D., D.C.L., F.B.A., Emeritus Professor of Logic and Metaphysics in the University of Edinburgh. Oxford, at the Clarendon Press. 1930. Pp. vi + 256. 12s. 6d. net.

ONE may doubt if the title of this book is the most apt to describe its contents or to enable it to find its way into the hands of the class of readers to which it should be most valuable, *viz.*, students of Christian dogmatics and of the history of the development of religion along the line which culminates in Christian theism. To these students in particular Prof. Pringle-Pattison has rendered a great service. He has supplied them with a concise and critical discussion of the origin of religion and some of its most elementary forms, in the light of modern anthropology, of the process by which the conception of the tribal God of the Hebrews was transformed by the prophets into that involved in an ethical monotheism, of parallel processes otherwise occasioned in ancient Greece and Persia, of the apocalyptic background of the New Testament, and of the laying of the foundations of ecclesiastical doctrine in the apostolic age. From the large amount of material yielded by historical and comparative investigations he has extracted the facts and theories of which it is of first importance to take account ; and the sense of proportion, the insight into what is most significant, and the wide theological learning which he manifests, distinguish his work as one of the best

of its kind. In one respect it is of a unique kind; for while there are many good books covering parts of the subject-matter dealt with in this volume, there is perhaps none which in a similar manner connects them into such a continuous whole.

The author's exposition of the development of religion begins with a consideration of forthcoming views as to what was the most primitive form of religion and of the relation of religion to magic. He regards Tylor's theory, that religion arose out of animistic thought, as obsolete: neither ghosts nor demons were the first deities. Frazer's supposed age of magic or pseudo-science, preceding the dawn of religion, is rejected as mythology; and consequently no favour is shown to the view that men took to wheedling the superhuman powers by propitiation and prayer only after discovering the inefficiency of magicians to control the course of Nature. Much that used to be referred to magic is nowadays ascribed rather to religion. Religion is earlier than animism and, together with magic, arises in emotion excited by the occult and the awful. The most recent generation of explorers of the field of primitive religion, as represented by Marett, is credited with truer insight than its predecessors; and Prof. Pringle-Pattison agrees that the primitive religious object is no longer to be identified with spirit but rather with what, in virtue of its supposed life and power, possesses prestige and sacredness, as expressed in the positive term 'mana' and the negative term 'taboo'. Durkheim's theory, according to which the religious object is merely a personification of the primitive society with its internal structure, is accounted insufficient in that it fails to explain the cosmological character common to religions, and cuts mankind loose from Nature: totemism contains the germ of the belief in Providence. Nevertheless, religion is a social reaction, and the tribal god is the personified community, though also something more than it.

The transition from theriomorphism to anthropomorphism, the author observes, is best traceable in the history of Greek religion; and to this he now turns. The Greeks became, in a sense, a peculiar people, different from the barbarians in that they came to read the superhuman not as the beast-like but as the human idealised. Greece also illustrates the evolution of monotheism through the stage in which Zeus is but a *primus inter pares*, recognising Moira as independent of himself, and onwards until in Æschylus he stands for moral government. In the main line of Greek philosophy from Socrates to Aristotle, with its endeavour to ground the laws of human conduct on the laws of the universe, monotheism became completely ethical. In a later chapter Zoroastrianism is also shown to have been, in the conception of its founder, an instance of the monotheistic outcome of speculation on the cosmic scale.

Hebrew monotheism, on the other hand, is a development, out of tribal monolatry, conditioned by experience of national history, and may in essence be said to be a philosophy of history. The story of that evolution has been often told, but it loses none of its interest as

retold in this volume, and is supplemented by a sympathetic account of later Judaism and the Law. The pages devoted to Jewish and Christian apocalyptic deal with a subject that will perhaps be less familiar to many students of divinity, but the author's treatment of it should show how indispensable is acquaintance with this by-way of religious thought for an understanding of the earliest Christian literature.

The remaining chapters of the book are concerned with the first stages in the development of Christian doctrine. Their respective titles are: The Historic Jesus, The first Christians in Jerusalem, The Christology of St. Paul—St. Paul and Philo, Gentile Christianity and the Mystery Religions, The Fourth Gospel, and The Christ of the Creeds. It would be becoming only for a specialist in the department of New Testament theology to offer criticism as to points of detail dealt with in these chapters, and I am in too close agreement with the author's general conclusions to offer comment on them. I concur with his strictures on the kenotic theories by which one or two recent theologians whom he cites have sought to make the traditional Christology more intelligible, and I can only complain that at the last pages of his otherwise very lucid volume Prof. Pringle-Pattison becomes vague as to the final issues—the interpretation of the person of Christ and the exact meaning of 'revelation' as associated with His teaching. For instance, in a passage quoted (p. 252) with approval from Dean Inge, occurs the sentence, "surely Christ came to earth to reveal to us not that He was like God, but that God was like Himself"; but the words "came to earth to reveal" seem but to restate, as if their non-technicality put them beyond question, the dogma which Prof. Pringle-Pattison has, in so far as its technical formulation is concerned, appeared to dismiss as unintelligible and involving the miraculous. Because the origin of the Christian revelation was not 'miraculous,' in the specific traditional sense of that word, it was, he says, none the less the work of God in a human soul. And if one should ask on what grounds he entertains that belief his answer would seem to be that the message authenticates itself: "it 'finds' us by its appeal to all that is best in us". Why what appeals to the best in us, or the highest that we needs must love when we see it, is true in the sense of being valid of reality—which is perhaps the question which the philosophy of religion is primarily concerned to discuss—is not here taken up. It would seem that such acceptance as Prof. Pringle-Pattison accords to Christianity is made possible to him only by an embracing of that pragmatist theory of truth which, within the sphere of religion, is confronted with the fact that imaginal and purely ideal objects, provided their actuality is believed in, can excite sentiments as efficacious in the spiritual life as those evoked by known actualities.

In this connection a few words may be said as to the author's first chapter, on the meaning and scope of the philosophy of religion. Taking philosophy to be a synoptic view of things, we may speak, as

he says, of a philosophy of any particular department of experience, such as law, art, or religion, as well as of philosophy as a whole, or of a philosophy of all the sciences, etc. A philosophy of a particular subject will consist in an analysis and interpretation of the experience in question, in its bearing on our view of man and of the world in which he lives. The philosophy of man's religious experience, Prof. Pringle-Pattison continues, cannot but exercise a determining influence upon our general philosophical conclusions: "in fact with many writers the particular discussion tends to merge in the more general" (p. 1). This is doubtless so because many writers would say that a philosophy of religion is not properly so called unless it does concern itself, and concern itself pre-eminently, with the relation of religious belief to our general philosophical conclusions, or with the truth-claim of religious belief and its relation to certainty, probability, etc. If this were not its paramount issue, a philosophy of religion would dwindle into a science of religion, and even into a department of anthropology. The latter identification would doubtless be renounced by Prof. Pringle-Pattison; but he does not seem sufficiently to guard against being interpreted as if he sanctioned it. He observes that the facts supplied by the history of religion, in the most comprehensive sense of that term, are the *data* of the philosophy of religion, and that pure history is not philosophy. But is it enough, if a philosophy of religion is to be distinct from a science of religion, to say (p. 2), "to achieve a philosophy of religion we should be able to discover in the varied manifestations a common principle to whose roots in human nature we can point, whose evolution we can trace . . . , as well as its intimate relations with the other main factors in human civilisation"? It may be but a question as to the appropriateness of names, but unless 'philosophy of religion' means something more than this, and includes above all the epistemology of religious belief and dogma, it would seem to be a superfluous reduplication of the name 'science of religion'. For this reason some teachers are beginning to ban the phrase 'philosophy of religion,' and to speak instead of philosophical theology, when they have in mind epistemological rather than historical or genetic questions. The nature of religious experience and its manifestations, and the historical development of religious beliefs and institutions, after all form but a part of the subject-matter of anthropology unless religion is concerned with questions as to the ultimate truth of things. Then only is it relevant to philosophical problems and is philosophy concerned with it. To put the matter differently, there can be a philosophy of theology, but none of religion, as distinct from theology: *i.e.*, there can be no philosophy of the historical manifestations of religious sentiment apart from questions as to the *reality* of the religious object evocative of that sentiment, and as to the *truth* of propositions concerning that object. Such questions are in some measure contemplated in the philosophy of religion as Prof. Pringle-Pattison describes it. But in associating philosophy of religion with

what is called the philosophy of history rather than with epistemology, and in regarding philosophy of religion as predominantly concerned with the development of religion and its harmony with other experience, he conceives of his subject as more akin to a science of humanity, and less akin to the theory of knowledge, than some philosophers would regard it. Hence the doubt, expressed at the beginning of this review, as to the aptness of the title of his interesting book.

F. R. TENNANT.

Das Psycho-physische Problem. By ROBERT REININGER. (Second Edition.) Vienna, W. Braumüller, 1930. Pp. vii + 292. M. 11.

THIS book deals with the central problem of philosophical psychology, and indeed of philosophy itself—the status of body and mind. It faces the problem of the distressing and perpetual retirement of the pure psyche before any attempt to trap it, and investigate it. It attacks the old question : How can I know myself when I myself am doing the knowing ?

There is a healthy principle running through the book : we must always remember that experience is our only test, and that constructions which claim to ' explain ' experience, while experientially ' real ' *qua* objects of thought, are valuable only in so far as they lead from experience to experience, satisfying expectations ; the proof of the transphenomenal pudding lies in the eating.

This is all very well, but having stated that we are going to start with experience, and stick to experience, and treat such objects of reflection as substantial matter and substantial soul as suspect, granting them no further reality than they have as objects of thought on a par with and not *beyond* experience, the difficulties begin ; we have yet to describe experience.

Prof. Reininger starts by discussing two concepts of *Bewusstsein*, which we may, I think, fairly translate as ' the Phenomenal '. From one point of view, he says, we must admit that everything we start from is a conscious-ed object and, as it were, an object of consciousness in general, while from another point of view, which he calls ' the biological ', there is always an ' I ' in the consciousness. ' We ' know what we know because ' we ' are conscious of it ; ' I ' in a sense better, because ' I ' am in the centre of ' my ' consciousness and it is only through ' my ' consciousness that I know anything. Having distinguished these two conceptions of the Phenomenal, the public and the private, the ' epistemic ' and the ' biological ', he passes on to his main thesis, which is that within the Phenomenal interact, intermingle, and intercross the Psychical and Physical. Their peculiar relations escape ordinary speech ; they are, considered apart, only

'Grenzbegriffe', and cannot be treated properly. When we take the scientifically objective view of matter, not Matter as substance, but a bit of matter before us at any moment, there is always the percipient, less prominent to attention, but there all the same, and when we try to catch the perceiving it is only in objectified form that we can do so; we can only experience experiencing, we cannot perceive it, and we are left with the husks of 'sensations in the eye' which lead us on to make interesting but, from the point of view of 'pure psychology', irrelevant remarks about the physiology of the nervous system.

We have, therefore, these two sides of the '*Bewusstseins-tatsache*', '*Vorstellung*' and '*Erlebnis*', the objective and the subjective, and by *Vorstellung* he means "everything about which I can think or speak" as well as the immediately presented. This passes over what may well be an important question, namely, the status of the objective of thought as distinct from the words and symbols by means of which we think. By lumping all that is not experiencing under one heading, '*Vorstellung*', it would appear that the objects thought about and the immediate presentation *in* thinking—the '*unanschauliche Inhalt*' and the '*anschauliche Inhalt*'—are put on a par with one another. This may turn out to be the right line to take, but something ought to have been said to justify it, and the difficulties which we shall have to mention later on when we come to the possibility of a science of Psychology are closely connected with this very problem. We cannot 'picture' a state of mind, except, perhaps, in a quasi-poetical way, but surely we can refer to it without making it '*anschaulich*'.

The two 'things' which make up experience vary quantitively from experience to experience; in perception the objective side outweighs the subjective, in imagery the subjective side out-weighs the objective, and with regard to the amount of subjective element in any experience, each one has to be taken on its own merits. We are now up against the author's main difficulty—to describe experience adequately. From the standpoint of reflexion it is easy enough to see that in every perceiving there is something peculiar to the 'I' who perceives, even if we reduce the 'I' to a timeless, ever-altering experiencing, which is what Prof. Reininger does. But when it comes to more direct description it is not so easy. He says, for example (p. 60), "With every content of sensation (*Empfindungsinhalt*) there is also a specific '*Organempfingung*' bound up", and this *Empfindung* is peculiar to me, a characteristic of 'my' body, and further (p. 65), "There is no content of consciousness and no conscious process which is not accompanied by the '*Lebensgefühl*' which is composed of my '*Eigenempfindungen*'," and, lastly (p. 66), "Colours, sounds, etc., are never just there (*sind ja niemals schlechthin da*), but 'I see a colour', 'I hear a sound': where the word 'I' stands for the total bodily feeling (*leibliche Zentralempfindungen*), and the seeing and hearing for the peripheral organ-sensations." Occasionally

we 'lose ourselves' and then this '*Erlebnis-seite*' of the '*Bewusstseinstatsache*' is at a minimum. My own difficulty is that this 'being lost' is my commonest experience. When I am walking along a road, interested in the view, or when I am reading a book and am interested in the subject, 'I' am lost, and there is the view or the subject about which the book is written and that seems to be all. On reflexion I say that there are two sorts of things to talk about, the experiencing and the experienced, but when it occurs I remember it to have been an unalysable whole. This seems very like what Prof. Reininger wants to say, but whereas he wants to have in every experience an '*Erlebnis-seite*' which is not the result of subsequent analysis of the 'there must have been . . . '-type, it seems to me that the *Vorstellungs-seite* is not merely out-weighing, but makes up the whole thing. It must be stressed that we are discussing the description of experience and not the explanation of it.

We now turn to the '*Erlebnis-seite*'. Prof. Reininger rightly insists that physiology is not psychology, and that when we speak of red patches and associated nerve-disturbances, we are correlating sense-data and not 'explaining' anything at all. The position is that we say, when we have a perception of a red patch, that if we could turn our eyes in a certain direction we should probably have another sense-datum. Two immediate objects are related and the psychic has evaporated. How then can we speak about the '*Erlebnis-seite*' in any detail? It would seem that Prof. Reininger holds that we cannot, and yet the fact remains that he has been talking about it the greater part of the time. "To picture (*vorstellen*) oneself as 'I', is, however, to picture (*vorstellen*) oneself as a body" (p. 181), and "If attention is not directed simply on to the content given in a visual perception but on to the 'seeing', that is to say on to the accompanying organ-sensation, immediately we have in its place a picture of the 'seeing' eye," and even "Will and Feeling cannot be pictured (*vorstellen*) as such but only experienced" (p. 152). And so he develops the view that there is a 'transformation of self-consciousness' the moment it turns its eye inward on to itself. The series is: Experience itself—Life, which cannot be looked at by itself—then a half-way house, a part of or the whole of *my own* body, peculiar because it is "drenched with the feeling of life" (*vom Lebensgefühl durchzogen*) and then further objectification into nervous processes in general, and then chemical and electrical changes, and lastly a few figures representing space-time relations. This 'transformation' is important to the author because he makes tentative suggestions of a metaphysic in which the physical world is a transformation of psychic reality.

Now his account of the way in which we think of the psychological side of experience seems to me to be wrong. Of course we do not re-live the *Erlebnis-seite* to which we refer, except in very rare instances of memory, and they are objectified in the sense that they are made objects of thought, but that is a very different matter from saying

that our bodies must come in when we think of them. I can perfectly well remember what it felt like to be jealous on a specific occasion without picturing my body. There may be what I call bodily accompaniments—I may remember sensations in my chest and stomach, and actually have a picture of those parts of my body—but it is quite untrue to say that my past feeling has transformed itself into these chest and stomach feelings, let alone chest and stomach *pictures*; the sensations in question were components in something which I can remember, and which involves something else besides them to which I can refer. That this is so seems to be obvious from the very fact that Prof. Reininger himself complains that the physiological account of, say, emotion or will is unsatisfactory; how does he know, unless he is thinking about something else which he is trying to describe?

When it comes to transcendental philosophy and metaphysics the author seems to abandon the very position which he thinks so important. What is the status of the external world with its persisting objects and its causality? According to Prof. Reininger, both persistence and causality, as opposed to mere succession, come from the *Erlebnis-seite* and so also does temporal succession itself. "The category of thing-hood is fundamentally only a reflexion of the unified ego-experience" (p. 228). The category of causality involving something more than bare succession comes from our feeling of power in the experience of willing, and events appear successive because of our experiencing which makes them look that way "without regard to their objective simultaneity or temporal succession" (p. 226). The key to all this seems to be that Prof. Reininger has given up experience for reflecting philosophy. If we say that all we know for certain is the momentary experience we must explain how it is that we get the notion of a cause-drenched universe of persisting things. But surely we are there confusing what experience *ought* to be with what it really is. The situation seems to me to be reversed. We experience a world of things which were there before we looked and remain there after we have stopped looking, which act on one another and which have spatio-temporal relations with one another; that surely is what we get when we examine experience *per se*. It is only when we start philosophising that we get the momentary sense datum, the real present, and the dependence of objects on being perceived. If you set out to start with experience, you must start with the data of naïve realism in which the independence of objects is a very striking item. Prof. Reininger's attack is: How do we know of forces save from our experience of our wills, how do we know of persistence save from our own feeling of persistence? Surely, he says, such energy and unity as we feel in ourselves are projected on to the external world. If instead of just stating his view and leaving it, he had supported it with argument, he would have found difficulty in giving an account of this process of projection. Projection on to what? He starts with the *Bewusstseinstatsache*, divides it into two uniquely

related matters of discourse, the physical and the psychic, everything that is an object of perception, imagery or thought being in the first class, all experiencing in the second ; he then practically says that we have no business to see things acting on other things, or even things as *things* at all, these features are projected from the ***Erlebnis-seite.*** The tangle is very like that in which the Associationists found themselves ; they started with pure sensations which no one ever experienced and had to invent processes of construction to arrive at the world of every-day perception. Prof. Reininger starts with the world of every-day perception, describes it unsatisfactorily, and has to get back through projection to the world with which we are familiar. He therefore glides past the possibility that the world we perceive is as we perceive it with its causal relations and its thing-hood, and finds a difficulty in the extraordinary affinity between what we expect and deduce with our minds and what happens in experience. He also ignores the possibility of direct knowledge of other people's states of mind. They are always interpreted in terms of our own experience.

Although I cannot feel that he has solved the psycho-physical problem, he has made three important points which help towards its solution. In the first place he insists on the importance of experience and the primacy of the immediate world, though the immediate world is not adequately described. Secondly, the problem of experiencing—the ***Erlebnis-seite***—is presented over and over again in various lights. Even if we admit, which Prof. Reininger would not, that we can think of experiencing in its various modes without our objective transforming itself into a part of the body, it is true that we require another technique to aid us, and it is in the appreciation of this that lies the third contribution. In order to cope with the elusive character of the experiencing side of experience we must introduce the technique of Intuition into our psychology and metaphysics. It is that technique which is displayed in poetry and novel writing. In scientific psychology we can formulate rules, erect structures, make correlations, but something is lacking—according to Prof. Reininger, the Prince of Denmark himself : we still require whatever it is which brings states of mind ' home to us ', which makes us feel when we read, say Proust, or the poetical philosophy of a writer like Nietzsche, a thrill of recognition. To think adequately about reality we need both kinds of vision, and we need to use them both at once, while recognising their essential differences. The trouble comes when we either neglect and condemn one or the other, or, worse still, when we confuse them.

W. J. H. SPROTT.

The Growth of Plato's Ideal Theory: An Essay. By Sir James George Frazer. London: Macmillan & Co., 1930. Pp. xi, 114. 7s. 6d.

Sir James Frazer's resurrected Fellowship Dissertation of 1878 is not the easiest of works to review in the proper spirit. It has, of course, a real interest as the early work of one who has since achieved great eminence in letters and in anthropology; it has also an interest of a different kind for Platonic students of 1930, who find themselves, as they read it, transported into the unfamiliar atmosphere of the days when half a century of intensive work on the interpretation of Plato's thought, the determination of the chronology of his writings, and the reconstruction of the social and intellectual background of his life had hardly begun. It is inevitable that the writer's whole treatment of his theme should appear antiquated when seen in the light of the best contemporary Platonic scholarship. In view of the date of the essay, it is much to his credit that he should have followed his teacher, Henry Jackson, in insisting on the posteriority of *Sophistes*, *Politicus*, *Philebus*, to the *Republic*, and still more so that, though with hesitation, he should have associated the *Theætetus* with the later group of dialogues. And there was courage, perhaps, required in those days of a young writer who maintained, against Zeller, the truth that "Plato did not start the Ideal theory as a means of explaining all our general notions" (p. 51). But to-day I feel sure the general verdict of Platonic scholars will be that where Sir J. G. Frazer is right in his conclusions, he can be shown to be right by much more cogent arguments than those advanced in this essay, while many of his positions can now be proved definitely mistaken by considerations of which he has taken no account. For example, it will now, I think, be pretty generally held that discussion of the date of the *Theætetus* has been made superfluous by the certain identification of the battle from which Theætetus was carried home to die. Hence I cannot believe it possible even to entertain the surmise that the dialogue is meant to "*prepare for* a proof that knowledge is innate in the reason" (p. 19, italics mine). Its silence about the εἴδη, rightly remarked by Sir J. Frazer, must be intentional, but the discovery of the true date of composition forbids us to account for the fact by the theory that we are dealing with a first introduction to speculations yet to be disclosed. I should say again that the thesis of p. 22, according to which the "Ideal theory" is stated for the first time in the *Meno* and *Cratylus*, is in no better position. The *Meno* says nothing about εἴδη which goes beyond the language of the *Euthyphro* (a dialogue treated in this essay as entirely "Socratic"). The words of *Meno* 81*b*, quoted as evidence, are misinterpreted. It is not the "Ideal theory" of which Meno there says εἴ μοι δοκεῖς λέγειν. (In fact, an able writer of the present year has actually appealed to the passage as proof that the *Meno* must belong to a time when Plato believed firmly in immortality, but had not yet thought of the

"Ideal theory.") It is surely very disputable whether the *Cratylus* really differs in its use of the words εἶδος and οὐσία from the *Euthyphro*, or even the *Hippias Maior*. If those competent scholars who give the work a late place in the series of dialogues of Plato's first great period should be right—and I do not say that they are—the notion that we can distinguish within this period between "purely Socratic" dialogues and others would surely have received its *coup de grâce*.

Sir J. Frazer himself professes to be able to make this distinction pretty confidently, apparently without clearly realising that before we can do so, we must answer the question what the 'historical Socrates' taught, and that this is far from a simple problem. As far as I can gather, Sir J. Frazer assumes as self-evident three propositions: (1) that conversations found in Xenophon's *Memorabilia* represent the actual thought of Socrates, and represent it adequately; (2) that any matter not touched in the *Memorabilia* lay beyond the horizon of Socrates; (3) that Xenophon's statements are independent of the Platonic dialogues. Now all these assumptions may conceivably be true, though there are few contemporary scholars who would admit them all, but they are far from self-evident. Before we can confidently use Xenophon's picture of Socrates as a sure historical "control" in our study of Plato we need reasonable proof: (1) that Socrates had no thoughts which he did not disclose to the "good young man" (as Macaulay called him); (2) that the "good young man" really understood the full bearing of what he did hear; (3) and that he has neither used Platonic dialogues as the basis for his own versions of "discourses of Socrates," nor even been led by his apologetic purpose into silence about matters of which he could have spoken if he had chosen. No wonder that a vast literature has grown up round the Xenophontic *Memorabilia* and the problem of their historical value since Sir J. Frazer's essay was written. It is not his fault, of course, that no such literature existed in 1878, nor can one reasonably complain that so indefatigable a writer in very different fields has been unable, or unwilling, to master this not always very readable material in later life. But since he has chosen to reprint his early essay in apparent ignorance of what has been done in this field since 1878, it becomes necessary to say plainly that no one can hope to profit much from a contribution to the study of Socrates and Plato in which the very existence of the literature and of the problems which have called it into being is ignored.

For these reasons I think it superfluous to discuss the detailed reconstruction of the stages of Plato's intellectual development propounded in the essay. In its main basis it, naturally enough, shows the influence of Jackson, but with a significant difference. The "Ideal theory" is traced from its supposed first enunciation in the *Meno*, through the great group, *Phædrus*—in the *Preface* this mistaken ante-dating of the dialogue is withdrawn—*Symposium*, *Phædo*, *Republic*. For the writer the "Ideal" theory *is* Plato, or,

at least, the Plato who "counts." Philosophically it is a delusion, but the delusion of a great poet, clothed in language full of imaginative charm. In the later dialogues (for which the improbable order, *Timæus*, *Parmenides*, *Sophistes-Politicus*, *Philebus* is assumed), Sir J. Frazer finds himself repelled by the change of literary manner, and complains that Plato is "walking in darkness, or at most a grey twilight." He has "abandoned" his magnificent, though deceptive, dream, and has nothing of value to put in its place (there is, then, no "later Platonic theory of Ideas"). The *Laws*, probably in Plato's own eyes his *magnum opus*, is barely mentioned.

What this really means is that the writer cares about Plato simply as a maker of great imaginative literature. In Plato as a thinker anxious to find truth he is not deeply interested, and of the Plato who stands self-revealed in the VIIth *Epistle*, the Plato whose passion for truth itself was born of the conviction that knowledge is the one medicine for the moral disease of society and the individual man, few students of fifty years ago seem even to have dreamed. Yet this, as we all know now, was the real Plato, and we need to understand the point before we venture to pass judgement on his ripest work. If Plato's great concern in life had been merely to make fine literature, the latter half of his career might be pronounced a melancholy failure. If, even, his chief aim had been to propound a metaphysical or epistemological thesis as a contribution to abstract speculation, the years spent in struggling with Syracusan politics and the writing of the *Laws* might be regarded as a mistake. But if we estimate his work in the light either of what we know to have been his own supreme ambition, or of the influence it has had on European religion, education, and law down to our own times, perhaps we shall rather commend him for keeping the best wine till the last.

Apart from this temperamental bias, Sir J. Frazer clearly laboured when he wrote his essay under a further serious disqualification for the work of interpreting Greek philosophy. He wrote, not unnaturally, from the standpoint of a young man satisfied that the fashionable philosophy of the day, that of Mill's *Examination of Hamilton*, was the last word of wisdom. Hence the formulas which underlie his whole argument. At best the "Ideal theory" was a romantic delusion, for it converted what in the hands of Socrates had been a legitimate inquiry about knowing into a theory of being. But it is doubtful whether there can be any sound theory of being, since "knowledge is relative," as Mill is supposed to have proved. In the end we are acquainted only with "images" of things in our own minds, and what guarantee could Plato have that the mind is not a "distorting mirror"? Philosophy, then, reduces to an empirical psychological analysis of the human mind. Mill, like his victim Hamilton, has long gone the way of all flesh, and I cannot but wonder that Sir J. Frazer should still apparently feel no misgivings about the simple doctrine he drank in in his youth. Has he never considered how, on the theory that all objects with which we are

acquainted are reflections in a mirror, we ever discover that they *are* reflections, or that there *is* a mirror? If I had, from birth, seen nothing but faces in the glass, what meaning could I attach to the statement that they are faces in a glass? And does the glass reflect not only the faces, but its own surface? The Socrates of the *Republic* and *Theætetus* might be trusted to raise the question. And I am equally sure that he would have met the explanation that his own quest for "definitions" is not concerned with *being*, since it only amounts to raising the psychological question "what concept we form" of τὸ καλόν or τὸ δίκαιον, with a direct denial. His question was not what we *do* as a psychological fact mean by these names, but what we *ought* to mean if we are to think about the objects named in the way which discloses their real structure. The objects about which Socrates commonly spoke were indeed moral, not physical, entities, but his problem was none the less ontological, not psychological. He assumed that τὸ καλόν and the rest have a φύσις or οὐσία of their own, independent of what any one happens to think about them, and that the business of moral science is to *find out* what this οὐσία is. The psychologizing misrepresentation makes the whole of Greek moral philosophy and all that has since come out of it unintelligible. And this is the answer to Sir J. Frazer's criticism that the inquiries of Socrates could add nothing to knowledge, because you can only get out of a "notion" what *you* have put into it.

May an Englishman be allowed to correct an unintentional injustice of the author to a "brither Scot"? It is no detraction from the services of Ritter or Lutoslawski to Platonic studies to mention what both of them have always acknowledged, that the use of stylistic evidence to determine the order of composition of the Platonic dialogues was originated by that fine Greek scholar, Lewis Campbell, of Oxford and St. Andrews. Campbell had definitely settled in 1867 the question of the place of the *Sophistes*, *Politicus*, *Timæus*, *Philebus*, *Laws*, in the series of dialogues, before Continental scholars had begun to work in this field.

A. E. Taylor.

VII.—NEW BOOKS.

Hegel's Wissenschaft von der Wirklichkeit und Ihre Quellen. Vol. I. By KURT SCHILLING-WOLLNY. Munich, E. Reinhardt, 1929. Pp. 302. Paper: R.M. 11.50; Linen: R.M. 14.

THE present volume of this work (of which a second volume is promised) is composed of three "Untersuchungen". The first of these, which occupies more than half of the book, maintains the following thesis: whereas Kant, by his denial of Metaphysics and his identification of philosophy with criticism had made philosophy into a science which *transcends* the distinction of knowledge and object, and which therefore has itself *no* object, it is characteristic of all the German idealists who succeeded Kant to assign to philosophy an object, or to conceive it once more as knowlege of 'the real'. This tendency takes in the main three different forms, according as the authors who represent it derive their impulse from one or other of Kant's three 'Critiques'. Thus Reinhold, starting from the "Critique of Pure Reason" makes consciousness the object of philosophical knowledge; for Fichte, who takes his inspiration from the "Critique of Practical Reason", philosophy is knowledge of the morally willing Self; Schelling and Hegel develop the germ contained in the discussion of organic nature in the "Critique of Judgment" and make philosophy the knowledge of *Life*, or the "conception of the object (the world) as a living thing" (p. 12). All participate alike in what is really a revolt against Kant's rigorism in confining knowledge to the understanding and yet denying to the understanding any knowledge save of phenomena; all insist that philosophy at least must be direct knowledge of reality, and its 'organ' accordingly not understanding but intuition (*cf.* 90, 237). Thus Herr Schilling-Wollny will have none of the theory, represented, *e.g.*, in Kroner's "Von Kant bis Hegel", that Hegel's philosophy is the inevitable development of Kant's premises; he points to the "Jugendschriften", which show Hegel, long before the appearance of any of his "systematic" works, immersed in the attempt simply to comprehend the reactions and processes of the living objects of history, and he claims that Hegel's later philosophical development consists in nothing more than a progressive realisation of the method which he was thus early employing. Hegel was from the beginning "nothing but an historian of life" (237); and to the end his philosophy was simply history.

The obvious criticism of this account, at least so far as it touches Hegel, is that it makes his philosophy a philosophy not of spirit but of life, and so misses almost everything distinctively Hegelian. The whole significance of German idealism is ignored if it is regarded as a simple relapse from the Critical to the Metaphysical standpoint. It is true, in a sense, that the idealists "gave philosophy an object", but they were unanimous in insisting that this object was not a natural object, not an object conditioned, like the objects of science, by relation to a subject, but an object which itself transcended this relation, or that this object was not substance nor

Nature nor Life (regarded as a natural process), but Spirit. They claimed on this ground that their idealism was not a relapse from Criticism but a development of it, and to ignore this claim is not to refute it.

It is, of course, Herr Schilling-Wollny's deliberate intention to show that Hegel's systematic philosophy of spirit is secondary and derivative, and to exhibit 'Hegel the historian' as the essential Hegel; and it must be admitted that to stress this side of Hegel is a salutary and necessary corrective of the more general preoccupation with the other side of him. Unfortunately the conception of spirit is no less essential to an understanding of 'Hegel the historian', because the object of history is, and was first recognised by Hegel to be, not life, but spirit; so that Herr Schilling-Wollny's account must be held to involve a distortion of Hegel upon this side also. It would, I suggest, be far better suited to a criticism of M. Bergson's philosophy; the cognomen "Tier-Gott", which he applies to the Weltgeist, the moving spirit behind the historical development, would be exquisitely apt of the 'élan vital'. But to what differentiates an historian from a biologist, and therefore Hegel, on his own account of him, from M. Bergson, there is no evidence that Herr Schilling-Wollny has given a thought. To speak of an "historian of life", as though that were synonymous with "an historian", and to place history on a level with organic nature as an object of knowledge (156), can only indicate a simple confusion of two different things.

It is true that Hegel himself did not always distinguish life from spirit. We have only to think of Leibniz's Monadism, the very essence of which is the indistinction of life and spirit as principles of individuality (or, more simply, of the etymology of the word "animal"), in order to realise how hardly the distinction was won; and I suppose it was never secure until Darwin finally severed the conception of specific individuality from that of conscious purpose. But it is one thing for a philosopher to hold two conceptions together in an indistinct unity; it is quite another thing for a critic, for whom they have already been distinguished, to confuse them again, to substitute one for the other, and to attribute it to the philosopher to the exclusion of the other. That Hegel sometimes asserts that the object of his philosophy is "Leben" or "das Lebendige", gives no justification to a twentieth century critic for repeating it after him; for the simple reason that "life" means for the critic a natural process, something distinct from spirit and exclusive of it. It would be exactly as true, and as false, to say that the object of Aristotle's philosophy is "life", because *ἡ νοῦ ἐνεργεία ζωή*. Hegel asserts far more frequently and emphatically that the object of his philosophy is "Geist", though Herr Schilling-Wollny feels himself absolved apparently from attaching any meaning whatever to this word; and I hazard the assertion that in works later than the Phenomenology the term "Leben" is nearly supplanted by "Geist". It is untrue to say that there is no difference to be found between Hegel's later and his earlier writings in this regard. There is all the difference between Hegel's early doctrine that "the principle of morality is love", the unity in which "das Lebendige fühlt das Lebendige" (quoted p. 154) and his later doctrine that the principle of morality is "Sittlichkeit", or the unity of the individual with *Law*, which lies beyond the realm of life and in that of spirit.

By the simple device of identifying spirit with life (on p. 139 "Leben" is naively equated with "Vernunft"; and examples are too numerous to specify), Herr Schilling reduces Hegel's philosophy to an incredible flatness. It is regarded, like the knowlege of the understanding in the natural sciences, as knowledge of a natural object, of organic as opposed to inorganic nature.

Differing from the natural sciences in that it cannot be conceived as "scientific" in the same sense, it is labelled "intuition", asserted to be thereby freed from the restrictions of the discursive understanding, and behold Hegelian Philosophy as "Wissenschaft von der Wirklichkeit"! This would be a preposterous enough caricature if offered as an account even of Schelling or of the early Hegel; it may be true that Schelling's was a "Philosophy of Nature", but he regarded the organ of this philosophical knowledge never as that mere intuition, which is complementary to understanding, but as "intellektuelle Anschauung", in which both elements are (somehow) comprehended; it may be true that the early Hegel made "life" the object of philosophical knowledge, but he never conceived life, like the biologist, as a *natural* process; "Leben" comprised for him both life and spirit in a dim and undifferentiated unity. How could he otherwise have called the principle, which he developed later from his conception of "Leben", the "world-*spirit*"?

I suggest that Herr Schilling-Wollny's fatal inability to attach any meaning to spirit is a direct consequence of his neglecting the path 'from Kant to Hegel', since the great result achieved along this path was to assign a positive meaning to spirit, as the real unity in which the distinction of thought and existence is transcended.

The two remaining sections of this volume deal with Hegel's concept of time, and with the relation of this concept to his dialectic.

M. B. FOSTER.

Spinoza on God. By JOSEPH RATNER. New York, Henry Holt & Co., 1930. Pp. xiv, 88. $1.50.

IN this tractatulus Mr. Ratner expressly disclaims any direct attempt at philosophical interpretation, confining himself, so far as may be, to textual analysis and 'the logical development of the doctrine on God'. This segregation, rather than marshalling, of interests is one important source of the book's very obvious limitations.

After dealing very briefly with the distinction between 'substance' and 'mode'—denying (rightly) that this is identical with the Aristotelian distinction of subject and predicate, and affirming (wrongly) that it is an application of the distinction of whole and part, so that a mode is a 'sample' of substance (Martineau), he passes to what interests him more fundamentally, *viz.*, the distinction between 'substance' and 'attribute'. Here his aim is once again (and rightly) to deny that this is an application of the distinction of subject and predicate. Joining issue with writers like Sigwart, Joachim, and Wolfson (the authors actually named) in so far as they hold either that the opening propositions of *Part I.* of the *Ethics* are only intended as a refutation of the popular or the Cartesian conception of substance; or that Spinoza's repeated use of the plural '*substantiæ*', and the definite assertion in *Ep. ix.* of the identity of substance and attribute (not to speak of *Eth. I. Def. iv.* itself) are no more than relics of his early Cartesianism, or 'traces of the older inaccurate terminology' (Joachim), he affirms that each attribute is a substance, and that there are substances consisting of two or more such simple substances, as well as God or Substance consisting of infinitely many simple and multiple substances.

Mr. Ratner expresses the admitted distinction of substance and attribute

in the rather unfortunate form that the difference is 'connotative' and not 'denotative', terms which can only confuse the issue if they are wrongly applied, while their correct application demands a prior independent grasp of the nature of the distinction of substance and attribute.

With the main assertion of the substantial character of the attributes I am in entire agreement and have myself elsewhere asserted it with some emphasis, but many of the arguments which are here associated with it appear to me to be idle or even open to grave question. It is idle to suggest that Spinoza's distinction of substance and attribute is only an expository device to enable him to concoct extended 'geometrical' proofs avoiding tautology or appeal to mere intuition; and it is very questionable scholarship to overlook or put aside Spinoza's express denial in *Eth. I. x. Sch.* that two distinct attributes constitute two distinct substances. Strangely enough Mr. Ratner quotes this *scholium* at length but makes no comment on its main assertion, though naturally he finds its language 'equivocal and on the surface confusing and obscure' (p. 59). To argue as if the attributes must either be different substances or lose their substantiality and become mere predicates of one substance is to make the identity of substance and attribute not merely a truth but a blinding obsession. For surely Spinoza's contention is that each attribute constitutes the essence of the one Substance, and is thus essentially substantial. 'Extension' is not the same as 'extendedness', but is 'extended substance', *i.e.*, Substance *qua* extended. There is no substance but Substance, yet this may be adequately conceived under the attribute of Extension, or that of Thought, or of X. Fully conceived it is Substance consisting of infinitely many attributes, but this is only *formally* possible for man; for him it is *actually* only Substance consisting of two attributes, and this limitation involves, as I have elsewhere shown, a certain opaqueness (but not limitation *in suis generibus*) in both Extension and Thought.

In rejecting Mr. Ratner's contention that Spinoza asserts the existence of infinitely many substances, I do not forget the frequent use in the *Ethics* of the plural term '*substantiæ*', or the identification of attribute with substance, or again the assertion that the attributes are infinitely many, but neither do I think that the reader who supposes that these three data yield Mr. Ratner's conclusion has yet understood the philosophy of Spinoza, or even distinguished it from that of Descartes, save in so far as an infinite pluralism is distinct from a mere dualism. It was natural enough for Spinoza to speak concretely of '*substantiæ*', *i.e.*, anything falling under the denomination of '*substantia*', when elucidating the nature of substance. At that stage the question of how many substances actually exist need not arise; and when it does arise it is answered by reference to the character of substance. And the seeming redundancy of some of the proofs which is noticed by Mr. Ratner is similarly explained: thus it is first proved that substantiality implies necessary existence (*Eth. I. vii.*), and afterwards that Substance necessarily exists (*Eth. I. xi.*).

These imperfections in Mr. Ratner's account of the relations of substance and attributes arise from his failure fairly to face the philosophical interpretation of Spinoza's doctrine of God. In attempting to avoid problems which are essentially unavoidable, he only succeeds in becoming involved in vague and unsatisfactory conceptions which present difficulties as great as those which he rejects. For the identification of the *infinita attributa* with *infinitæ substantiæ* within *unica Substantia* yields no solution of the problem how the One is also infinitely many; indeed, the problem is more acute than for those who take the attributes as mere predicates,

though it is too hard for them. Substance, Mr. Ratner tells us, is not the collective unity of its simple components (*passim*), but 'it is not an indisputable axiom that real unity is impossible with qualitative diversity' (p. 42): such suggestions are neither impressive nor satisfactory. Nor is it very helpful to emphasise the identity of the 'order' in all the attributes (substances), and then to deny that this order is constitutive either in Substance or in the attributes; and the hazy suggestion that Spinoza was in need of the conception of 'organic' unity, with the implication that Substance is the organic unity of the attributes (substances) cannot be too often or too baldly denied.

I have already said that Mr. Ratner does not regard this problem as his *métier*, but my point is that it ought to be his *métier*, and that until he turns to the philosophical interpretation of Spinoza's doctrine of God, his textual analysis (in spite of the primary importance of textual study) is likely to remain jejune and thus to fall short of the high standard of achievement so enthusiastically claimed for it on the dust-wrapper of the volume by Prof. John Dewey. Within the limitations which I have named the book is a tolerably good one, and will be very useful in emphasising more than one important aspect of the philosophy of Spinoza; and perhaps an author should not be blamed for the over-generous enthusiasm of his friend set forth with the excessive emphasis of his publishers.

There is no Index, but the book is pleasantly printed and produced.

H. F. HALLETT.

Opera hactenus inedita Rogeri Baconi. Fasc. X. Questiones Supra Libros Prime Philosophie Aristotelis (Metaphysica, I., II., V.-X.). Nunc primum edidit Robert Steele, collaborante Ferdinand M. Delorme, O.F.M. Oxford, Clarendon Press, 1930. Pp. xxxii, 360. 28s. nett.

How many persons, one wonders, who are under no compulsion to achieve the task, will ever read through this further instalment from the Amiens MS. of the lectures delivered by Roger Bacon as a young Master of Arts in Paris? One would not expect a long series of dialectical exercises *pro* and *contra* on the subjects treated of by Aristotle in *Metaphysica A-I* to be of any absorbing interest in themselves, and the treatment of the questions raised in this volume has not even any very great interest as throwing light on the personality of the lecturer, or the growth of his mind. It is clear that in his early Paris days either Brother Roger had not yet developed any striking originality of his own, or if he had, thought it improper to obtrude personal views in his discussions with his pupils. The Roger of these discourses is a very different Roger from the author of the *Opus Maius*. The interpretation of the Aristotelian text, so far as one reader can see, is just the conventional interpretation one would expect. (It is, of course, the Augustinian and not the Thomist conventions which are presupposed, as one sees from the confidence with which the plurality of "forms," and the presence of "matter" in all creatures, including the angelic intelligences, are maintained.) Neither Bacon's peculiar "illuminationism," nor *scientia experimentalis* finds any mention, as was indeed hardly to be expected in view of the character of the text which has suggested the "questions".

A word, which I will make as brief as I can, about the printed text the editors have supplied us. One would not, of course, wish to say anything

disrespectful to the devotion and industry which could carry any editors through the weary task of deciphering a manuscript of this kind and preparing it for the Press. And they deserve real praise for having included in the present volume, as they have not done in some of its precursors, a very long Appendix of passages where their second thoughts have led them to change their first opinions on the true text of a passage. But I still feel that the book suffers in many places from not having been read through with sufficient attention to the meaning. I doubt if the editors even now have realised how very inaccurate the scribe of the Amiens MS. can be (assuming, that is, as I am bound to do, that where they expressly record a reading as that of the MS., they have reproduced exactly what the scribe wrote). And I am quite sure that, in a considerable number of cases, they have allowed grave errors to go uncorrected from not grasping the sense of the context in which they occur. In particular, too often it has not been discovered that words are a mere "dittography," to be deleted before grammar or sense can be obtained, and too often the omission, or the wrong insertion, of a negative—one of the commonest faults of careless scribes—has gone undetected. (I think I may presume that the errors would have been corrected if they had been detected, and that it is not the intention of the editors to reproduce their MS. with all its imperfections on its head, since they have actually put it right in so many scores of places.) Also I note not a few places where a 'correction' given in the Appendix is pretty certainly shown by a consideration of context not to be the right one. I do not wish to be censorious, but honesty compels me to say that a reader of the volume will have to make numerous corrections for himself before he can penetrate to the actual deliverances of Bacon.

I give one or two examples in support of my remarks. I could supply others, but prefer to be brief. P. 192, 4 (oratio est significativa . . . eorum que sunt apud intellectum, cum sit nota *intellectus*.) The editors tell us, as their second thought, to read *intellectui*. *I.e.*, I suppose they think *nota* is an adjective. But this gives an entirely false sense; *intellectus* is right, the meaning being that 'discourse' is '*a mark of* understanding'. P. 298, 1 (quare potest agere simul utrumque *est simul* oppositorum vel neutrum.) The note on this is that *est* simul should read *et* simul. But with this change, the words are untranslatable. The true correction is to *delete* the words *est simul* as due to a "dittography" of the preceding *simul*. The meaning is simply that "both opposites may act at once, or neither may act." P. 309, 22. The question is whether there is *potentia ad formam* in "celestial things," and we are told that Aristotle says quod non est ibi potentia ad formam, but, forma prior est quam ubi. In the appended notes, the *ad formam* is rightly emended to *ad ubi*, but it has not been observed that the *non* must also be omitted. (The intended argument is "in the heavens there *is potentia ad ubi*, but *potentia ad formam* is presupposed by *potentia ad ubi*".) P. 334, l. 5, que sunt in diversis generibus *magis* conveniunt. The context absolutely requires the change of *magis* to *minus*. (Those terms are at the greatest distance which least agree with one another; terms which belong to diverse genera agree least with one another, ergo, terms which are in different genera are most distant from one another.) *Ib.* 17 (queritur) primo quomodo opponuntur magnum et parvum. It has not been seen that this does not correctly state the problem which Bacon proceeds to discuss, which is not of what nature is the opposition between great and small, but whether *both* terms are contraries of 'equal'. Read, of course, quomodo ‹equali› opponuntur, etc.

Ib. 19, tantum unum contrariatur. This, as it stands, gives no sense. Read ‹uni› tantum unum contrariatur, "one term has one and only one contrary," the proposition which is immediately used as the major for the syllogism which follows. I have confined myself to a very few examples of undetected errors, taken at random; it is not from any want of appreciation of the editors' industry or their ability as decipherers of a mediæval MS. that I feel bound to urge that before the University of Oxford sends out a large volume as the 'work' of Roger Bacon, its text should at least have been read by some one sufficiently at home in the subjects treated of to put such things, of which there are only too many in this volume, right.

A. E. Taylor.

Am Ende der Philosophie. By Dr. Ludwig Freund. Munich: Ernst Reinhardt, 1930. Pp. 179. M. 6.50 or 8.

It is very good that philosophers should be reminded of their limitations, and it is equally good that attempts should be made to restate the Kantian doctrine of the limits of human knowledge in a more defensible form, while again it is good that both these tasks should be performed in a way which neither fails at any time to hold the interest of the reader nor bars his path by unnecessary difficulties of exposition. For these reasons the book before us is to be welcomed and congratulated. At the same time I feel that the author somewhat overestimates its originality and importance. Had the work been published 150 to 200 years ago it might have been epoch-making; as it is, it gives a new statement and perhaps a genuinely new variant of a type of position that has often been maintained already, without providing arguments at all adequate to shatter the beliefs of any except very credulous and dogmatic philosophers. The author succeeds in showing without any difficulty that philosophy cannot claim to be knowledge in the full sense of the term, *i.e.* is not certain and irrefutable. He also draws the same conclusion about science, but then turns almost the whole weight of his criticism against philosophy on the ground that it cannot use verification in experience to lessen the degree of this uncertainty. This distinction between philosophy and science might possibly have been justified by a "critical" distinction between knowledge within the bounds of experience and attempts at knowledge which go beyond experience, and this Kantian distinction seems to be what the author had in mind, but he nowhere devotes an adequate space to justifying it. Nor does he seem adequately to appreciate the problems raised by the *a priori* elements in our cognition, which are after all not confined to philosophy. To him the ideal of knowledge is immediate experience, and from this he concludes that empirical judgments are less uncertain than inferences, induction than deduction. (He makes a reservation in favour of mathematics, but does not explain what he takes the position of the latter to be.) The difficulties involved in this empirical position are not discussed. Further he seems to confuse two vitally different conclusions. He does succeed in showing that almost all philosophical doctrines are merely probable not certain, but he seems to assume that this is the same as to show that there is no valid reason for preferring one to another, and that they are all in the position of mere fancies distinguished only by the subjective preference of individuals and by utility in regard to practical needs. But surely there are degrees of probability, and in the absence of certain knowledge we may

still attain to justified opinion. He admits that we may do so in science, and even if the degree of probability be lower in philosophy it does not follow that all conclusions are equally unreasonable.

Nor does his solution of the conflict between philosophy and religion seem at all satisfactory. In his view philosophy, being a critical study in a scientific spirit, must express no opinions as to what lies beyond experience, since it cannot attain to knowledge; religion, being essentially dogmatic, can accept beliefs about such subjects but must not try to give any rational grounds in their favour or admit any discussion of them. Religious belief and philosophy never meet and therefore cannot clash. How we are to choose between two conflicting religious beliefs, and how we are really to believe a religious doctrine which we, according to him, know to be groundless, he does not so much as suggest. He certainly does not take the pragmatic view nor does he make belief in general dependent on will, but in most cases rather a matter of involuntary though merely subjective conviction. Another serious criticism of his method is that he seems greatly to exaggerate the importance of definition for philosophy and for thought in general. His main argument against philosophy is indeed that it is impossible for us to determine with certainty what the really essential attributes of anything are, and therefore to define it satisfactorily. His account of definition is, however, very well worth reading, especially as there is perhaps a tendency to underestimate the importance of the question in this country.

If we turn to the conclusions of the author, leaving the arguments by which he reaches them, we find a form of the sceptical position in regard to metaphysics which has the great merit of being free from most of the inconsistencies which have furnished the conventional basis for the refutation of such views. He does not say that there are things-in-themselves, only that there may be; he does not say that reality is absolutely unknowable or even that we have not discovered any of its attributes, but only that we do not know whether we have or not. And all philosophers would do well to pay attention to what he has to say about the value of the sceptical attitude and the sceptical method in philosophy, which he reasonably opposes to absolute scepticism. Further he shows well that, even if his relatively sceptical view be right, there is abundance of work for philosophy in the way of removing errors, defining and clarifying concepts, and even beyond the sphere of experience in suggesting not indeed doctrines but possibilities. Finally, the book possesses the great advantage of being very lucid and readable.

A. C. EWING.

Pleasure and Instinct. By A. H. BURLTON ALLEN. London: Kegan Paul, Trench, Trubner & Co., Ltd., 1930. Pp. ix + 333. 12s. 6d.

IN this valuable book Mr. Allen, with appropriate acknowledgments to Butler, Stout, and McDougall, defends and develops the view that feelings are distinctive ingredients in mental states, and that every feeling arises from the satisfaction or obstruction of some conscious desire or conative disposition. Mr. Allen is well aware that sensory feelings—such as pleasant and unpleasant sights and sounds and tastes and smells—seem difficult to explain on this theory, and not the least of his merits is that he fully discusses them. His conclusion is that this difficulty is merely apparent. Pleasant sensations are pleasant because they satisfy some appetency; and they accompany either normal or properly heightened vital activity.

They are what we want. Unpleasant sensations are unpleasant because they obstruct or fail to satisfy our appetencies; and they accompany understimulation or over-stimulation of vital activity. We do not want them. "Our view is that bodily pleasure and unpleasure depend on an analogue of conation existing in the organism, a *nisus* to maintain, or to carry out to the full extent, the functions proper to the bodily system. They are the results for consciousness of a process of the nature of conation, which has taken place in the nervous system, without the direct co-operation of the conscious self; pleasure being the feeling of the success and the smooth working of that process, and unpleasure of its obstructed working" (p. 62).

Such a view of sensory feelings is obviously required by the general theory which Mr. Allen seeks to establish. What is important is that, like McDougall, he brings forward strong evidence of its truth. He relies chiefly on an inductive argument. Taking each of the senses in turn, he exhibits the association that has been shown to exist between sensory pleasure and the recognised physiological symptoms of normal or heightened vital activity, and in some cases he goes further and indicates the appetency that is being satisfied. The pleasantness of light-sensations, for example, is attributed to the fact that "the eye craves light," and our colour-preferences are related to the katabolic and anabolic processes whose existence such theories as Hering's assert. Those who impatiently argue that this theory of feeling is refuted by the existence of sensory pleasure and displeasure now have a detailed and difficult case to meet. We may hope, however, that Mr. Allen will some time deal with certain more obscure facts about sight and hearing which he at present neglects. In connexion with sight, many people, as Mace's experiments show, find closed figures more pleasant than open figures, and diamond-figures more pleasant than triangles, circles or squares. It would be interesting to know whether the perception of closed figures, and especially of diamond-figures, can be shown to be accompanied by a higher degree of vital activity than the perception of open figures. And, if this be so, it would be interesting to have some indication of the appetencies which such figures satisfy. But Mr. Allen would perhaps accept McDougall's view that such figures facilitate perception and thus satisfy a tendency towards more complete apprehension.

Mr. Allen devotes the greater part of his book to the feelings which arise from the satisfaction or obstruction of instinct. These feelings have always been readily explicable by the hormic theory, and the value of Mr. Allen's discussion lies in his careful account, difficult to summarise, of the pleasure and displeasure connected with each of the special instincts. Here as elsewhere, however, it is sometimes suggested that feelings alone may constitute mental states, and that some pleasures are qualitatively different from others. It surely needs to be emphasised that there is no such thing as a state of pleasure or displeasure, but only pleasant and unpleasant mental states. In other words, while pleasure or displeasure characterises, or is an ingredient in, mental states, feeling, as Broad has remarked, is not a mode of consciousness on the same level as cognition and conation, and the old three-fold division of conscious states is therefore unscientific. Moreover, whether pleasures differ qualitatively or not, we must not infer that they do from the fact that pleasant mental states differ in their non-hedonic qualities. To put the same point in terms of the hormic theory, it does not follow from the fact that we satisfy different wants that our pleasure is different in each case.

In his later chapters Mr. Allen discusses the relations of feeling, sensation and desire to each other and to the concept of value. And, while he adopts

much of what Stout has said, he also says much that is new. One of his best points is that only some theory of the type he defends can explain the relativity of feeling—the fact that the same stimulus often arouses quite different feelings on different occasions. It is a pity, however, that he could not consult the last books of Broad and Laird. For both *Five Types of Ethical Theory* and *The Idea of Value* treat this subject in a most penetrating way. Nevertheless Mr. Allen has provided a powerful argument for the very plausible theory that we are pleased always and only when we are satisfied.

REX KNIGHT.

The Realm of Matter. By GEORGE SANTAYANA. London: Constable and Co., 1930. Pp. xv, 209. 12s.

THIS work is the Second Book of *Realms of Beings* to which the celebrated *Scepticism and Animal Faith* was a general introduction; and although the author pretends to a certain hesitation in passing from the realm of essence (Book I.) to the realm of existence, he proceeds blithely enough. "Matter" for him is a name for everything hylic. It is "the principle of existence: it is all things in their potentiality, and therefore the condition of all their excellence or possible perfection" (p. v). Since it is "something that happens and is not conceived" Mr. Santayana appears to infer that *because* it happens it *cannot* be conceived, but remains the "postulate of substance", "a part of this extraordinary compulsory assumption which I make in living" (p. 2). It is "external to the thought which posits it". Nevertheless from "externality" in this epistemological sense, Mr. Santayana proceeds to deduce such "indispensable" properties of "matter" as empirical spatiality, a physical time, diversification of substance and the relativity of our cosmos. He distinguishes such indispensable properties from the "presumable" properties which include the emergence of *immaterial* mental facts (p. 41).

Since substance is "the natural parent of all scattered empirical facts" Mr. Santayana endeavours to give some sort of synopsis of the appearance and the whereabouts of this unconventional brood. In this connection (among much that is interesting and some things that are valuable) the most important discussion appears to be that of "The Flux of Existence" (chap. v.) especially with regard to its conception of "natural moments" (p. 88) and to the "forward" as well as "lateral" tension which these contain. Quite half of the book, however, is concerned with the "tropes" (or patterns) within nature, and particularly with the life-trope or psyche and the consciousness to which it (sometimes ?) predisposes. If it is not quite plain why a discussion of "matter" should be so largely occupied with the rudiments of "mind" it is very apparent indeed that Mr. Santayana enjoys the opportunity of crossing swords with his ancient foes the "idealists", whether Berkeleyan or "Hebraic-Protestant" like Hegel.

The foundations of this argument do not seem altogether clear. The psyche, we are told, is but a trope of matter; but then matter is only "a name for the actual substance of the natural world whatever that substance may be" (p. 140). The trope itself is nutrition, reproduction, life; and this definition of the life-trope is said, in italics, to be "a deliberate refusal to admit the possibility of any mental machinery". While Mr. Santayana's deliberateness is apparent, however, his reasons seem more obscure. "The psyche" he says (p. 152) "is probably never unconscious"

but always feels some *unsubstantial* experience, and "this spiritual function of the psyche is added to her generative and practical functions, creating a fresh and unprecedented realm of being, the realm of spirit, with its original æsthetic spectrum and moral range and values incommensurable with anything but themselves. Yet this whole evocation is a concomitant function of the same psyche which presides over bodily growth and action" (p. 162). Why if "matter" be potency should the tropic potency towards nutrition and physical growth be logically in a different position from the epi-tropic potency towards spirituality? Why should there be "concomitance" and not union, subordination and not initiative? And if "substance" be the "concrete," what is non-concrete or, in that sense, "immaterial" in the "unprecedented" realm of being that is called spirit?

However that may be, the critique of "psychologism" (= mentalism or presentationism) lacks nothing in vigour—"the religiosity of Berkeley or Leibniz was only official; their idealism was, and was intended to be, perfectly mundane"—and the final chapter on the "materialism of idealists" raises questions which, I think, should be answered seriously by those who are of this persuasion.

I do not know whether those who regard Mr. Santayana as a great man of letters rather than as a considerable philosopher (I am not suggesting that the disjunction is exclusive) will find this volume quite so delightful as its predecessors. He seems often to be angry and perturbed. But it goes without saying that they will find much to please them. I mention but one of his *mots*—the really charming as well as amazingly acute question on pages 44-45—"Why shouldn't some astronomer with one foot in idealism tell us that the universe is nothing but light?"

JOHN LAIRD.

Logic and Nature. By MARIE COLLINS SWABEY. The New York University Press, 1930. Pp. xiv, 384.

THE 'jacket' of this book declares its purpose to be "to indicate Logic as the method of metaphysics and to show its applications to current problems of science and nature," while the Preface represents it as "a critique of naturalism and an argument in support of rationalism." The rationalism it advocates appears to be of a somewhat antique type. It retains clearness and distinctness as the criterion of truth (*e.g.*, p. 337), it relies on the antithesis of 'form' and 'matter', and it takes for granted the laws of Identity, Contradiction and Excluded Middle without attempting a critical discussion of what they mean, and how far they express the procedure either of human thinking or of natural happening. It does not seem to have occurred to Prof. Swabey that the form of predication is at variance with the law of identity and that *S is P* does not obviously exemplify *A is A*, nor that every process or becoming sets at defiance the principles that A cannot be B and not-B and must be either B or not-B. Nor does she suspect that these formal 'laws' may be merely conventions which regulate the use of verbal symbols. Else she would hardly be so confident that she had proved the impossibility of universal (which she calls 'absolute') change and relativity by arguing that this fact at least is unchanging (chap. i., § 2). This argument, which is as though one said that because the barometer persistently pointed to 'changeable' the weather must be unchanging, seems to rely entirely on the identity of the *word* 'change,' and abstracts wholly from the concrete character of the changes involved.

Elsewhere also some of Prof. Swabey's arguments seem open to exception. In her polemic against Naturalism (especially chap. ii., § 4, 5) she constantly argues that because the (somewhat extreme) form thereof which she repudiates is inadequate, a 'supranatural' and 'transcendental' view of Reason must be accepted, since it is the *only* alternative: this ignores not only the difficulty of ruling out all other interpretations, but also that in this case the obvious alternative to both naturalism and supranaturalism is a *humanism* which regards all *data* and all conceptions as relative to the needs of reconstructing human experience, and can calmly 'relinquish' "certitude and absolute knowledge" (p. 151), because it has no need to quarrel with a relativity which means nothing but suitability for human uses. Again, in contesting the explanation of the principles of *a priori* systems like the geometries as analogous to the rules of a game, Prof. Swabey argues (p. 195) that "having chosen the rules of his game, the player is obliged to abide by them," and on the next page this 'obligation' becomes a 'necessity'. This seems a bad confusion of 'ought' and 'must,' of a moral obligation and the factual necessity of being unable to act otherwise, though it is not uncommon in 'rationalist' reasoning. The antepenultimate chapter, on the Problem of Truth, though it hardly contains anything new, presents two curiosities. In it Prof. Swabey has managed to avoid all mention of the pragmatist criticism of the notion of truth (though it is perhaps implied on p. 343), and she has (pp. 345-346 n.) deduced the political equality of all men from the logical law of identity! The ninth and final chapter, on the Universe and Universals, argues that "it may even seem that the idea of the universal when fully unfolded is scarcely distinguishable from that of the universe" (p. 352), and appeals to the ontological 'proof' to establish the existence of 'the universe'. This evinces a perception of the logical necessities; for assuredly it can be proved in no other way. But it would have been more satisfactory if some attempt had been made to show that the abstract notion of 'universe' could not be concretely exemplified by the real in more than one way, and that the known nature of the real was not such as to preclude application to it of our notion of 'universe'.

These criticisms are perhaps only the carpings of a humanist empiricism which feels itself to be an alternative Prof. Swabey has overlooked entirely: they do not exclude a recognition that her book is nicely and simply written with a commendably sparing use of philosophic jargon.

F. C. S. SCHILLER.

Die Geschichte als Schicksal des Geistes in der Hegelschen Philosophie. Von MICHAEL B. FOSTER, B.A. (Oxford), Dr. Phil. (Kiel), Lecturer in Philosophy at Christ Church, Oxford. Verlag von J. C. B. MOHR (Paul Siebeck) Tübingen. 1929. Pp. 110. M. 6.60.

THIS is, in many respects, a book of a remarkable and unusual kind. Mr. Foster is an Oxford graduate, who has studied for some time in Germany. His book is written in German and was primarily intended as a thesis for the Degree of Doctor, which was conferred on him by the University of Kiel. He has now returned to Oxford; and I suppose it is likely that he will reproduce the substance of his work in English—perhaps in an enlarged form. Hence it seems best at present not to discuss it at any great length,

but only to indicate the nature of its contents, together with some rather general comments.

It is well known that the study of human history, with special reference to the development of the State, engaged the attention of Hegel during almost the whole of his philosophical career; and that his views about it underwent considerable changes. He seems to have been specially attracted at first by the Greek City State, but gradually realised that the modern State is necessarily of a much more complicated character. Hence his views on the subject are found in a series of writings that are not altogether in agreement with one another. Mr. Foster has given, in comparatively short compass, a good summary of these; and has accompanied it with a running commentary of a highly dialectical character. What he chiefly seeks to bring out is that the ultimate aim of Hegel's view of the State is to represent it as providing the appropriate mode of organisation for the realisation of the Kantian conception of moral freedom. 'Only Law can give us Liberty.' But Mr. Foster pursues Hegel through his successive writings on the subject with a running fire of dialectic, designed to show that the end has not been achieved. He even contends (especially on pp. 66, 72, etc.) that, in the later forms of Hegel's doctrine, the State seems to be subjected to individual *Willkür*, instead of providing an appropriate sphere for the realisation of the Good Will.

It cannot be denied, I think, that there is some force in Mr. Foster's contention; but, if he had given more attention to the source of the difficulty, I think his treatment would have been more enlightening. As far as I can judge, the real defect in Hegel's theory is to be found in its too rigid emphasis on the moral or spiritual aspect of the work of the State. We have recently been taught—largely from Indian sources—that the political aspect of human life is one of three main aspects that ought to be carefully distinguished, the other two being the moral or spiritual and the economic. In reality, these three aspects are necessarily referred to at almost every point in Hegel's treatment; and I think they become specially conspicuous in its final phase. But the rather excessive emphasis on the more purely moral aspect of the State causes the economic conditions, which cannot be neglected, to enter in almost exclusively as disturbing factors. It is these and similar difficulties (which are, of course, not peculiar to Hegel) that have given rise, on the one hand, to various socialistic schemes in modern times and, on the other hand, to attempts to secure more satisfactory international relations. It is, I suppose, true to say that such attempts to introduce more satisfactory relations within individual States and between different States did not very definitely come within Hegel's purview. Nor does Mr. Foster appear to have any particular suggestions to make in these directions. But, regarded as a historical sketch and, still more, as a dialectical exercise, his work is certainly, in a high degree, vigorous and suggestive; and it leads one to wish for more. Hegel himself, who, more than anyone else, taught us that human thought, as well as human life, evolves, could hardly have resented such dialectic.

J. S. MACKENZIE.

The Nature of Knowing. By R. I. AARON, M.A. (Wales), D. Phil. (Oxon.). London: Williams & Norgate, Ltd., 1930. Pp. 154. Price 7s. 6d.

THIS is a very modest and lucidly written book. Dr. Aaron is clear about the difficulties of the problems connected with the process of knowing,

and he limits himself to preliminary inquiries, leaving ultimate metaphysical issues to open out as his task proceeds. To define knowing is, he argues, impossible; all we can do is to endeavour to describe it. His method is to examine typical instances of what is put forward as knowing; to seek a means of deciding whether they are genuine knowing, and to discover whether there are really various ultimately distinct types of knowing, or whether all knowing is really of the same type. The types he considers are three: sensory experience, discursive reasoning, and intuitive apprehension. He is led to conclude that the knowing act is always a part of something wider, which he calls cognitive experience. All varieties of cognitive experience include preparations for, and are intended to lead up to, an act of knowing which, whenever it occurs (if it ever occurs) is always to be described in precisely the same way, *viz.*, as an intuitive apprehension of the real. "Intuitive" involves "infallible"; "act" denies "process"; the "real" is "what is".

Dr. Aaron concludes, then, that there are not various distinct types of knowing, but only distinct types of cognitive experience preparatory to knowing. "We do not believe, for instance, that sensing is one kind of knowing, and that discursive reasoning is another, whilst intuiting is still a third completely distinct type. The real differences that exist between these cognitive experiences do not lie in the knowing as such." His examination leading to this conclusion is patient and careful, and contains much interesting analysis. He finds no instance of an experience which consists of pure knowing and nothing else. Cognitive experience always contains a preparation of some kind for the knowing act, and in this preparatory stage lurks the possibility of error. Yet Dr. Aaron considers that we do have examples of cognitive experience from which error is definitely absent. "We believe that there are experiences where doubt never enters, however careful we be. Instances are to be found in the mathematical sciences, but are in no way confined to that sphere. We know the so-called Laws of Thought with complete certainty; but better still we frequently see that one thing implies another beyond the possibility of any doubt."

There are, of course, difficulties which arise in the further development of these views, attaching especially to the conception of a "preparation" for the knowing act, and its relation to the "real" which the knowing act apprehends. But it was worth while to have the preliminary questions dealt with thoroughly first; and it is to be hoped that Dr. Aaron will follow out his investigations into the further regions he has opened up.

L. J. Russell.

The Ethical Basis of Political Authority. By W. W. Willoughby, Professor of Political Science, Johns Hopkins University. New York: The Macmillan Co. Pp. viii, 460. 15s. net.

Theory of Legislation: An Essay on the Dynamics of Public Mind. By E. Jordan, Professor of Philosophy, Butler University. Indianapolis: Progress Publishing Company. Pp. xx, 486.

The aim of Prof. Willoughby's book is adequately indicated by its title. It opens with a survey of the most important political theories of the past, and in particular of the various forms of the contract theory. The treatment is fairly full, nearly 100 pages being devoted to the contract theory;

and it is also free from serious error. It does not, however, contribute greatly to the enlightenment of the reader. For it consists to a large extent of quotation and does not offer much criticism; indeed, it offers little of anything that cannot easily be found elsewhere, except perhaps its useful reminder that we must not regard the *Social Contract* as the only relevant exposition of Rousseau's political ideas. And of the constructive chapters which follow much the same could be said. The author's attitude is sensible enough, since he maintains that political authority is only justified when it seeks the welfare of its subjects, and does not neglect the points of view of internationalism and of the individual conscience. But he again relies largely on quotation and does not endeavour to justify his position by serious reflection or to connect it with any special ethical outlook. He has, however, added a short second part, more or less in the nature of an appendix, on the legalistic and pluralistic theories of to-day. And in this, although the legal theories are discussed legally and not ethically, he has the opportunity for bringing into prominence the distinction between the juristic and ethical points of view which is perhaps the most satisfactory feature of the book, and which, had it been brought into prominence earlier and made more fundamental, might have afforded the basis for a really interesting and useful discussion.

Of Prof. Jordan's book the chief aim and characteristic qualities can best be given in his own words (pp. xi, xii): "We assume that there is in the life of the public or corporate will an inherent and discoverable methodology. . . . It is this ultimate methodology that we recognise as persistent fact in the dynamic relations of public life; and the description of its various processes, together with the logic of their synopsis into a whole of life, constitutes the methodology of public mind. It is this methodology as circumstantial and executive in social or cultural fact that constitutes the legislative process as ontologically real; and it is this description, with its appropriate logical synoptics, that we mean by the theory of legislation."

O. DE SELINCOURT.

Histoire de la philosophie. É. Bréhier. Tome II. La philosophie moderne, II. Le dix-huitième siècle. Paris, 1930. Alcan. Pp. 311-576. Fr. 20.

IN welcoming a new instalment of M. Bréhier's freshly-written *History of Philosophy*, it is needless to do much more than congratulate the author on the speed with which his projected work advances towards completion. Nothing now remains to be added except that 'third part' of Vol. II. which is to treat of the nineteenth century, and this is already announced as "in the Press." In the present section of the work, which opens with Newton and Locke, and ends with the reactions of Herder, Mendelssohn, Maimon, and other contemporaries, to the "critical" philosophy, the ground to be covered is occupied to an exceptional extent with the careers and work of prominent Frenchmen (Condillac, Montesquieu, Helvétius, the Encyclopædists, Rousseau, Voltaire). Here, of course, M. Bréhier is particularly well at home, and can deal with his subject with a familiarity not to be expected in a foreign historian. But, as in the preceding instalment—I regret deeply that the title was inadvertently given in MIND as *Le dix-huitième siècle*, whereas, it should, of course, have been *dix-septième*—I note that the writer seems remarkably well-informed about the

lesser luminaries of Germany and Great Britain, few of whom fail to receive at least as much proportionate space as their merits could demand. Thus the account of the 'deistic controversy' and of the whole of the eighteenth-century moral philosophising of our own country is quite excellent but for the unfortunate omission of Richard Price, really the most important British moralist of the century. It might perhaps have been remarked that the real object of Hartley's *Observations* is to preach a certain quasi-mystical doctrine of "disinterested love of God," and I regret that, by some oversight, Butler should have been re-christened William, and described as being Bishop of Durham at the time his philosophical work was done. (He was only Bishop of Durham later, for the last two years of his life.) Anthony Collins also, once more appears as *Arthur* Collins. And the part taken by Great Britain in Kantian studies is hardly sufficiently represented by the inclusion of one single English work (James Ward's *Study*) among the *ouvrages d'ensemble*, and one other, by Prof. C. C. J. Webb, among the *études spéciales* enumerated on p. 571. That I mention such little things at all is a tribute to the excellence of M. Bréhier's work.

A. E. Taylor.

Received also :—

L. S. Stebbing, *A Modern Introduction to Logic*, London, Methuen & Co., Ltd., 1930, pp. xviii + 505, 15s.

W. D. Ross, *The Right and the Good*, Oxford, Clarendon Press, 1930, pp. vi + 176, 10s. 6d.

C. G. Stone, *The Social Contract of the Universe*, London, Methuen & Co., Ltd., 1930, pp. vii + 118, 6s.

S. Isaacs, *Intellectual Growth in Young Children*, London, G. Routledge & Sons, Ltd., 1930, pp. xi + 370, 12s.

A. E. Taylor, *The Faith of a Moralist : Series I, The Theological Implications of Morality ; Series II, Natural Theology and the Positive Religions* (Gifford Lectures, 1926-28), London, Macmillan & Co., Ltd., 1930, pp. xx + 437 ; xxii + 437, 15s. each.

M. Schlick, *Fragen der Ethik*, Vienna, Julius Springer, 1930, pp. vi + 152.

R. Duret, *L'Objet de la Perception*, Paris, F. Alcan, 1929, pp. ii + 102, 15 fr.

R. Duret, *Les Facteurs Pratiques de la Croyance dans la Perception*, Paris, F. Alcan, pp. iii + 254 + xi, 30 fr.

E. Barthel, *Vorstellung und Denken : Eine Kritik des pragmatischen Verstandes*, Munich, E. Reinhardt, 1931, pp. 213, M. 10.50.

L. Samson, *The New Humanism*, London, Williams and Norgate, 1930, pp. vii + 320, 12s. 6d.

W. P. Montague, *Belief Unbound* (Terry Lectures), New Haven, Yale University Press (London, H. Milford), 1930, pp. 98, 7s.

G. L. Dickinson, *After Two Thousand Years : A Dialogue between Plato and a Modern Young Man*, London, G. Allen & Unwin, Ltd., 1930, pp. 213, 6s.

B. Russell, *The Conquest of Happiness*, London, G. Allen & Unwin, Ltd., 1930, pp. 252, 7s. 6d.

E. L. Young, *A Philosophy of Reality*, Manchester University Press, 1930, pp. xi + 266, 8s. 6d.

E. Husserl, ed. by, *Jahrbuch für Philosophie und phänomenologische Forschung*, Bd. XI, Halle (Saale), M. Niemeyer, 1930, pp. ix + 570, M. 28.

E. Husserl, *Nachwort zu meinen "Ideen zu einer reinen Phänomenologie und Phänomenologischen Philosophie"* (off-print from *Jahrbuch*, Bd. XI), Halle (Saale), M. Niemeyer, 1930, pp. 549-570, M. 1.50.

H. Dingler, *Der Zusammenbruch der Wissenschaft*, 2nd edition, revised and enlarged, Munich, E. Reinhardt, 1931, pp. 432, M. 13.

H. Dingler, *Das System*, Munich, E. Reinhardt, 1930, pp. 133, M. 5.50.

H. Driesch, *Philosophische Forschungswege*, Leipzig, E. Reinicke, 1930, pp. xii + 121, M. 5.

R. Hönigswald, *Die Renaissance in der Philosophie*, Munich, E. Reinhardt, 1931, pp. 23, M. 1.

Second Congrès Polonais de Philosophie (Warsaw, 1927): *Rapports et Comptes-rendus*, Warsaw, 1930, pp. 200.

O. Becker, *Zur Logik der Modalitäten* (off-print from *Jahrbuch für Philosophie*, Bd. XI), Halle (Saale), M. Niemeyer, 1930, pp. 497-548,M. 4.

R. D. Carmichael, *The Logic of Discovery*, Chicago, Open Court Publishing Co., 1930, pp. ix + 280, $ 2.00.

Baron Descamps, *Les trois âges de la Science*, Brussels, M. Hayez, 1930, pp. 257-273.

W. Rivier, *L'empirisme dans les sciences exactes*, Brussels, J. Perebooms, 1930, pp. 13, 2 fr.

T. Dantzig, *Number: The Language of Science*, London, G. Allen & Unwin, Ltd., 1930, pp. 260, 10s.

E. Brüll, *Erkenntniskritische Grundprobleme der Relativitätstheorie, Quanten- und Wellenmechanik*, Breslau, O. Borgmeyer, 1929, pp. 66.

J. W. Tomb, *An Essay on Metaphysical and Mathematical Time*, London, John Bale, Sons, & Danielsson Ltd., 1930, pp. 20.

F. Warrain, *La Matière L'Énergie*, Paris, F. Alcan, 1930, pp. 179, 20 fr.

Sir J. Jeans, *The Mysterious Universe*, Cambridge University Press, 1930, pp. viii + 154, 3s. 6d.

L. Hogben, *The Nature of Living Matter*, London, Kegan Paul, 1930, pp. ix + 316, 15s.

T. A. Bowhay, *Spirit*, London, Kegan Paul, 1930, pp. viii + 224, 5s.

J. Baruzi, *Saint Jean de la Croix et l'expérience mystique*, 2nd edition, revised and enlarged, Paris, F. Alcan, 1931, pp. xxix + 737, 80 fr.

J. E. McTaggart, *Some Dogmas of Religion*, new edition, with an Introduction by C. D. Broad, London, E. Arnold & Co., 1930, pp. lii + 299, 6s.

F. L. Cross, *Religion and the Reign of Science*, London, Longmans, Green & Co., 1930, pp. ix + 110, 4s.

F. H. Marneck, *Glaubenslose Religion*, Munich, E. Reinhardt, 1931, pp. 197, M. 5.80.

G. J. Heering, *The Fall of Christianity*, trans. from the Dutch by Rev. J. W. Thompson, London, G. Allen & Unwin Ltd., 1930, pp. 288, 10s. 6d.

A. Renda, *Valori Spirituali e Realtà*, Messina, G. Principato, pp. 244, L. 20.

A. Lalande, *Précis raisonné de morale pratique*, 3rd edition, Paris, F. Alcan, 1930, pp. xii + 87, 10 fr.

L. P. Jacks, *The Inner Sentinel*, London, Hodder & Stoughton, 1930, pp. 288, 7s. 6d.

C. Delisle Burns, *What to read on Philosophy*, Leeds Public Libraries, 1930, pp. 28, 3d.

A. Lalande, *Les Illusions Évolutionnistes*, Paris, F. Alcan, 1930, pp. xi + 464, 50 fr.

P. Siwek, *La Psychophysique humaine d'après Aristote*, Paris, F. Alcan, 1930, pp. vii + 210, 30 fr.

C. Ritter, *Die Kerngedanken der Platonischen Philosophie*, Munich, E. Reinhardt, 1931, x + 346, M. 12.

A. Litman, *Cicero's Doctrine of Nature and Man*, New York, 1930, pp. 41.

D. Shastri, *Short History of Indian Materialism*, Calcutta, Book Co. Ltd. (London, Kegan Paul), 1930, pp. viii + 48, 2s. 6d.

A Monument to St. Augustine: Essays on some Aspects of his Thought written in commemoration of his Fifteenth Centenary, London, Sheed & Ward, 1930, pp. 367, 12s. 6d.

E. Hocedez, S. J., *Aegidii Romani Theoremata de Esse et Essentia*, Louvain, Museum Lessianum, 1930, pp. xiv + 189, 65 fr.

J. Salamucha, *Pojęcie Dedukcji u Arystotelesa i św. Tomasza z Akwinu* Warsaw, 1930, pp. x + 130.

D. E. Sharp, *Franciscan Philosophy at Oxford in the XIIIth Century*, London, H. Milford, 1930, pp. viii + 419, 21s.

M. Aron, *Un Animateur de la Jeunesse au XIII^e Siècle*, Paris-Bruges, D. de Brouwer et Cie, pp. 396, 20 fr.

R. M. Jones, *George Fox*, London, G. Allen & Unwin Ltd., 1930, pp. 221, 5s.

J. Chaix-Ruy, *Pascal et Port-Royal*, Paris, F. Alcan, 1930, pp. 167, 15 fr.

G. Stammler, *Leibniz*, Munich, E. Reinhardt, 1930, pp. 183, M. 4.50.

H. Wildon Carr, *The Monadology of Leibniz*, London, Favil Press, 1930, pp. ix + 213, 10s.

G. Carr, *Condillac's Treatise on the Sensations*, London, Favil Press, 1930, pp. xxxvii + 250, 10s.

H. Höffding, *Jean Jacques Rousseau and his Philosophy*, trans. by L. E. A. Saidla and W. Richards, New Haven, Yale University Press (London, H. Milford), 1930, pp. xxiv + 165, 9s.

I. Kant, *Lectures on Ethics*, trans. by L. Infield, London, Methuen & Co. Ltd., 1930, pp. xiii + 253, 10s. 6d.

W. Moog, *Hegel und die Hegelsche Schule*, Munich, E. Reinhardt, 1930, pp. 491, M. 10.50.

A. Fraenkel, *Georg Cantor*, Leipzig, B. G. Teubner, 1930, pp. 78, M. 4.50.

P. Jurevics, *Le Problème de la Connaissance dans la Philosophie de Bergson*, Paris, J. Vrin, 1930, pp. 278.

G. Boas, *A Critical Analysis of the Philosophy of Émile Meyerson*, Baltimore, Johns Hopkins Press (London, H. Milford), 1930, pp. iv + 146, 8s.

J. H. Tufts, *Recent Ethics in its Broader Relations*, Berkeley, Calif., University of California Press, 1930, pp. 181-201, $0.30.

W. Tudor Jones, *Contemporary Thought of Germany*, vol. i, London, Williams and Norgate Ltd., 1930, pp. 278, 5s.

A. C. Underwood, *Contemporary Thought of India*, London, Williams & Norgate Ltd., 1930, pp. 235, 5s.

H. G. Wyatt, *The Psychology of Intelligence and Will*, London, Kegan Paul, 1930, pp. viii + 273, 12s. 6d.

W. D. Ellis, *Gestalt Psychology and Meaning*, Berkeley, Sather Gate Book Shop, 1930, pp. xi + 172.

R. Calabresi, *La Determinazione del Presente Psichico*, Florence, R. Bemporad e Figlio, 1930, pp. xi + 188, L. 28.

C. Spearman, *Creative Mind*, London, Nisbet & Co. Ltd., 1930, pp. xii + 153, 5s.

W. Lange-Eichbaum, *Das Genie-Problem*, Munich, E. Reinhardt, 1931, pp. 125, M. 2.80.

C. Lloyd-Morgan, *The Animal Mind*, London, E. Arnold & Co., 1930, pp. xi + 275.

H. Freyer, *Soziologie als Wirklichkeits-wissenschaft*, Leipzig, B. G. Teubner, 1930, pp. iv + 310, M. 10.

O. Kroh, *Die Psychologie des Grundschulkindes*, Langensalza, H. Beyer und Söhne, 1930, pp. 352, M. 6.60.

G. C. Myers, *The Modern Parent*, London, Williams & Norgate Ltd., 1930, pp. xii + 350, 8s. 6d.

E. W. Robinson and E. G. Wever, *Visual Distance Perception in the Rat*, Berkeley, Calif., University of California Press, 1930, pp. 233-239, $0.25.

M. Nathan, *L'Esprit et ses Maladies*, Paris, Éditions Rieder, 1930, pp. 80, 25 fr.

S. P. Davies, *Social Control of the Mentally Deficient*, London, Constable & Co., Ltd., 1930, pp. xvii + 389, 13s.

J. H. Denison, *The Enlargement of Personality*, London, Charles Scribner's Sons, 1930, pp. xxii + 340.

G. Groddeck, *The Unknown Self*, London, C. W. Daniel Co., 1929, pp. 207, 7s. 6d.

I. C. Isbyam, *Infinity and Ego*, London, C. W. Daniel Co., 1930, pp. 25, 1s.

D. A. Laird and C. G. Muller, *Sleep*, London, Williams & Norgate Ltd., 1930, pp. x + 212, 6s.

Abstracts of Dissertations for the Degree of Doctor of Philosophy, Vol. III (1929-30), Oxford, Clarendon Press, 1930, pp. 109, 5s.

S. E. Anderson, *Lecithin, the Essence of Intelligence and its Carrier to Posterity*, pp. 134.

W. O. Stapledon, *Last and First Men*, London, Methuen & Co. Ltd., 1930, pp. xi + 355, 7s. 6d.

Forty-Fifth Annual Report of the Bureau of American Ethnology, 1927-28, Washington, Government Printing Office, 1930, pp. 857.

VIII.—PHILOSOPHICAL PERIODICALS.

JOURNAL OF PHILOSOPHY. xxvii., 16. **R. S. Lillie.** 'Science and Life.' [Concedes that science is concerned only with the constant or general and cannot deal with individual situations as such. But this leaves over a residuum of particularity which is not calculable and may be identified with 'freedom'. In social affairs this factor is important.] **A. F. Liddell.** 'In Defense of Absolute Ethics.' [Experience of value may be interpreted either in terms of cognition or in terms of purpose. But knowledge about values cannot replace value judgment; hence the ethical point of view, necessarily anthropocentric as it is, cannot be discarded, and ultimately humanises every finding of science. "The heart desires the ultimate and unchanging", and repudiates a science in which Heaven and hell are banished and "no one is damned, but all are lost." While "science makes no apology for truth neither need ethics defend goodness."] **G. Murphy.** 'A Review of Current Social Psychology.' [The work is becoming experimental, although the textbooks do not yet recognise this.] xxvii., 17. **R. G. Tugwell.** 'Human Nature and Social Economy,' I. [Classical economics was innocent of psychology but now there has risen up "a growing impatience with the cavalier treatment older economists still accord the study of human nature." It is also realised that "the materials of the psychology which would be useful to economists were yet to be discovered, and that this was work which the economist would have to do for himself."] xxvii., 18. **R. G. Tugwell.** 'Human Nature and Social Economy,' II. [Economics cannot escape responsibility for policy by confining itself to measurements and social statistics; also measuring is not experiment and modern science is experimental. Such questions as—why, when the price of beef is doubled, does the American people take to pork rather than mutton?—should not be unanswerable for economists. "Nothing prevents economics from being experimentally scientific except a mistaken conception of what is not scientific material." "Individual human nature is the rock bottom; 'group behaviour' is a mud in which anchors will not hold." In short, social science has followed too slavishly the procedure of other sciences instead of developing its own.] **A. A. Merrill.** 'Limitations.' [Recommends the study of Bergson to physicists, that they may realise that "light is *not* some *thing* travelling, it is just 'action over distance'".] xxvii., 19. **M. Farber.** 'The Method of Deduction and its Limitations.' ["To explain the world of experience it seems necessary to introduce principles which transcend it, and therefore logic must posit infinite domains which are free from contradiction. This is as vitally basic to the method of deduction as the principle of the uniformity of nature is to the method of induction." However "the claims that necessity, permanence, etc. are established by means of essential analysis or insight are not verifiable empirically; and any other kind of rational, non-temporal verification does not suffice for a temporal world".] **D. C. Williams.**

'The Definition of Yellow and Good.' [Examines, "the familiar proposition that a naturalistic ethics is impossible because good is a simple and ultimate quality like yellow, and because all simple ultimate qualities are indefinable and unanalysable and so incapable of conceptual treatment". Shows, in reply, that "even a typical 'simple quality' such as yellow is in truth *not* indefinable, unanalysable, or unexplainable, in . . . the legitimate senses in which the scientist or philosopher can have any object in defining and explaining it". Further the quality 'good' is no less definable, analysable and explainable than the quality 'yellow'.] xxvii., 20. **V. J. McGill.** 'An Analysis of the Experience of Time.' [Gives an account of Husserl's lectures on Time published in 1928, and thinks that they correct "the rather illogical theory of Bergson and the time-killing theories of Russell and MacTaggart".] **J. Loewenberg.** 'An Alleged Escape from the Paradox of Judgment.' [A rather devastating reply to D. W. Gotshalk, who had (in xxv., 8) criticised the writer's article (in xxvi., 24) on the Paradox that whether judgment refers to what it itself describes or to a 'real' object beyond it judgment is incapacitated either from being false or from being true.] xxvii., 21. **E. E. Aubrey.** 'The Place of Definition in Religious Experience.' [The psychology of religion, regarding an indefinite subjective feeling of *mana* as the root of religion, tends to sublimate all theologies, but gives rise to three questions: (1) "Is there such a thing as religious experience without theological concepts?" The mystic and the child may be quoted in favour of the answer *yes*, but this answer overlooks that past experience functions in all present experience and defines its objects, which are thus "branded with the initials of the observer". Hence definition does not follow, but accompanies, the experience, and a background of religious ideas inevitably affects it. This reinstates theology as an "organized collection of religious meanings which enable us to define any new experience as religious or otherwise." (2) "What contribution does theological definition make to vital religious experience?" Emotions and an object are the two poles of the religious attitude, which is the organisation of the emotions around an object. Religion thus oscillates between a vague sentimentalism as one extreme and dry-as-dust intellectualism as the other. Its terminology is metaphorical but it "seeks to convey the emotional quality . . . by reference to analogous satisfactions familiar in group experience." (3) What is the relation of philosophy to religion? Philosophy makes definition an end in itself, and abstracts from its vital meaning, thus evoking pragmatist protests against that play with abstractions which "fiddles to a logical tune while the throbbing city burns". The theologian should not allow philosophy to leave "the emotions to riot while it itself lapses into devitalized speculation".] **F. P. Hoskyn.** 'The Relativity of Inertial Mass.' [A mathematical paper, which argues that "it is physically meaningless to define motion with respect to space or the continuum," because "physical properties and processes are prior to their co-ordinate descriptions". This result is "opposed to the mathematical interpretation of the theories of relativity" and to the physical principles of Whitehead, which are Cartesian rather than Newtonian.] xxvi., 22. **B. Blanshard.** 'The Seventh International Congress of Philosophy.' [Is very lenient to the failings of the Oxford Congress.] xxvii., 23. **A. O. Lovejoy,** 'The Dialectical Argument against Absolute Simultaneity,' I. [It is the duty of philosophy to scrutinise Einstein's challenge to the assumption of absolute simultaneity and a single unequivocal history of the world. Einstein's originality consisted largely in

this that "at a crucial point in the history of his science, he suddenly begins to behave like a philosopher". That is, he argues 'dialectically', and asks what we *mean* by 'simultaneity', nay even what we mean by 'meaning'—like a pragmatist. He thus arrives at "the radically experimental theory of the nature of meaning". For (1) he renders meaning dependent on a practicable method of determining it experimentally, and (2) equates such experiments with the meaning of the terms investigated. The writer objects that "we obviously can 'mean' all manner of things which we have not verified, and even things which we cannot verify", that "the experimental theory of meaning is radically opposed to the spirit of scientific empiricism", that it is not true that "simultaneity at a distance is necessarily unverifiable", and that further paradoxical consequences would follow from the experimental theory of meaning, which is a "plausible but extremely muddled doctrine".] **F. C. S. Schiller.** 'How Propositions Mean.' [A reply to Hocking's 'Action and Certainty' in xxvii., 9. Hocking would see the 'correspondence between meaning and working' he desiderates if he would substitute the real meaning-in-use of judgments for the potential meaning of 'propositions,' and would realise that for pragmatism the latter is the sum of the meanings which the 'proposition' can convey when it is *used*. Real meaning is always relative to use. Similarly the pragmatist denial of 'eternal' truth does not extend to 'stable' truth, because some truths may change so slowly that their changes may be irrelevant for the purpose in hand.] **S. Hook.** 'In Defence of an Impression.' [of 'Phenomenology' against the protest of D. Cairns in xxvii., 15.]

Revue Néo-scolastique de Philosophie. xxxii^e Année, Deuxième série. No. 27. Août, 1930. **M. Blondel.** *La doctrine augustinienne.* [Extracts from the essay of M. Blondel in the commemorative volume published last month in London to mark the 1500th anniversary of St. Augustine's death.] **P. Harmignie.** *Ordonnances humaines et obligation de conscience.* [Is it always an obligation of conscience to obey commands of a human authority enforced by a "sanction"? The problem only arises on the hypothesis that there is a supreme "good for man" not identical with "the good of society," and that conscience obliges to the pursuit of the former. Even so, it will be an obligation of conscience to promote the good of any society, such as *e.g.* the State, which is itself a necessary means to the supreme good of man, and to obey all social rules which prescribe acts necessary to the attainment of this "common good" of society. But actual laws often command the performance of acts which are merely useful in view of the common good without being necessary. *E.g.*, a penalty is inflicted for late payment of taxes, because it is a convenience to society that most persons should pay their taxes promptly. But if this causes me personal inconvenience, and I prefer to pay late and to submit to the penalty, I violate no obligation of conscience. (If the penalty were unduly severe, no doubt, I should be offending against the duty of reasonable self-love if I chose to incur it.) The legislator may fairly be considered to offer me alternatives; by choosing either I fulfil the obligation of conscience to behave as the law directs. But not all laws can be interpreted in this way. The law does not mean to leave me the choice between not committing murder and being hanged for murder, but to prohibit murder *simpliciter*, and it may be doubted whether it means to leave a choice between not bringing contraband into the country and paying a fine; and the form in which laws are actually

promulgated provides no clue to the legislator's intention on the point. Hence the moral problem how to know when conformity to the law is an unqualified moral obligation. The legislator is justified in regarding his enactments as binding on conscience only when (1) the measure in question is certainly useful towards the common good, (2) and its utility is great enough to overbalance the irksomeness caused by the compulsion to the members of the society. In all other cases a civil law may be regarded as "merely penal"; *i.e.*, its breach subjects the transgressor to a penalty, but involves no moral offence. It is impossible to regard all civil laws as merely penal, and equally impossible to regard all as carrying a moral obligation.] **O. Lottin.** *L'Authenticité du "de potentiis animæ" d'Albert le grand.* [Comparison with the *summa de creaturis*, it is argued, proves almost to demonstration that the work is not by Albert, but by some follower of Philippe de Grève.] **N. Balthasar.** *Bulletin de Métaphysique (contd.).* [Deals with a considerable body of recent work on theoretic metaphysics.] Book reviews, etc.

KANT-STUDIEN. Band XXXV., Heft 1. 1930. This number consists entirely of addresses and lectures delivered at the Jubilee celebrations of the Society. Their common theme is "The State and morality". The lectures are: **Carl Schmitt.** *Staatsethik und Pluralistischer Staat.* [Considers what bearing the conception of the State as simply one group among others, or as an aggregation of groups, has on political and individual ethics. Inclines to Hegelian view of the State as a unique entity with unique exactions and unique obligations.] **E. Tatarin-Tarnheyden.** *Staat und Sittlichkeit.* [The State, as a power resting on the cohesion of human wills, cannot be separated from morality, and together with morality it leads us back ultimately to a personal absolute.] **Leo Polak.** *Zur sittlichen Rechtfertigung der Strafe.* [Punishment is morally justified, proximately "ut ne malis expediat esse malos" (Spinoza), ultimately as an assertion of moral values. Hence punishment should be suited to the individual, taking full account of his motives before the act and of his penitence after it.] **Willy Hellpach.** *Partei und Weltanschauung.* [Treats the opposition of parties after the fashion of the opposition of concepts in the Hegelian dialectic, and subjects the political partisanships in the chief countries to dialectical examination.] **Hans Freyer.** *Ethische Normen und Politik.* [Conflicts between moral and political demands arise only in fact; in principle they are harmonised through the Hegelian conception of the State as the realisation of superindividual values, and of individual morality as a stage in the development of that process.] **Paul Althaus.** *Staat und Reich Gottes.*

Band XXXV., Heft 2-3. 1930. **Oskar Becker.** *Die Philosophie Edmund Husserls* (with portrait of Husserl). [An expository account of the doctrine contained in Husserl's chief works. Does not attempt to relate to other lines of thought.] **Friedrich Sauer.** *Ueber das Verhältnis der Husserlschen Phänomenologie zu David Hume.* [Following Husserl's contention that Hume "had already entered the field of phenomenology, though with blinded eyes", develops the thesis that Hume's "impressionism" leads logically not to scepticism but to a constructive metaphysics.] **Heinrich Rickert.** *Paul Hensel.* [A personal appreciation, occasioned by Hensel's 70th birthday.] **Paul Fechter.** *Julius Bahnsen.* [Centenary account of a thinker who had affinities with Schopenhauer and von Hartmann. Portrait.] **J. Thyssen.** *Das objective Sein der Beziehungen.* [The tendency of Phenomenologists to rest in the vindication of a purely phenomenal objectivity is unsatisfactory. In

particular, the real objectivity of relations calls for treatment, and, except in a theory like that of Kant or Hegel, this problem must be dealt with by discussing relations not generically but specifically—*e.g.*, the status of negative relations does not determine that of positive ones.] **Paul Oppenheim.** *Der Denkraum.* [A criticism, from the Kantian standpoint, of the place assigned in formal logic to the "Laws of Thought".] **Arthur Lünemann** *Die Funktionssynthese.* **Erich Przywara.** *Das Augustinische Geistesmotiv und die Krise der Gegenwart.* [Seeks in current discussions problems parallel to those that occupied Augustine. In celebration of the 1500th anniversary of Augustine's death.] **J. Benrubi.** *Kant und die gegenwärtige Kritik der Naturwissenschaften in Frankreich.* [Informative sketch of the epistemological criticism of science in France from Renouvier to Meyerson. This line of thought derives not from Descartes but from Kant; consequently it is untrue as well as factious to speak of a barrier between French and German thought—there is no national autonomy in philosophy. (The author has published a full-length survey of current French thought—"Philosophische Strömungen der Gegenwart in Frankreich," Meiner, 1928.)] Obituary notices of Arthur Warda (the bibliographer of Kant) and of Franz Erhardt. Reviews. Communications (including a brief account of the work of John Dewey, called forth by his 70th birthday).

IX.—NOTE.

INTERNATIONAL HEGEL SOCIETY.

At a Congress held at The Hague at Easter in 1930 was founded the International Hegel Society ("Internationaler Hegel-Bund"). The object of the Society is to further the study of Hegelian Philosophy by organising congresses among its members; by holding lectures and courses of study; by publishing a year-book; and by assisting promising students of Hegel's philosophy.

Prof. Richard Kroner (Kiel) was elected president of the Society, Dr. B. M. Telders hon. secretary, and the following members of the Committee: Prof. Julius Binder (Göttingen), Prof. Calogero (Rome), M. B. Foster (Christ Church, Oxford), Prof. Gentile (Rome), Dr. Hermann Glockner (Heidelberg), Dr. Hessing (Bennekom), Prof. Koyré (Paris), Dr. Georg Lasson (Berlin), Prof. J. A. Smith (Magdalen College, Oxford), Prof. Tschizewsky (Prag), Prof. Wahl (Lyons), Dr. Wattjes (Delft), and Ir. B. Wigersma (Haarlem).

Application for membership should be made to Dr. Telders, Mauritskade 19, The Hague, Holland. The annual subscription is 5s. The first number of the year-book, containing the Proceedings of the 1930 Congress at the Hague, is published at 12s. 6d., members of the Society being entitled to a reduction of 25 per cent. on the published price. Money orders can be made payable to Dr. Telders (Postscheckkonto Haag 47003). Further information can be obtained from the secretary or from any member of the Committee.

MIND ASSOCIATION.

The following is the full list of the officers and members of the Association :—

OFFICERS.

President—Prof. W. R. SORLEY.

Vice-Presidents—Profs. S. ALEXANDER, H. WILDON CARR, W. G. DE BURGH, B. EDGELL, G. C. FIELD, F. GRANGER, G. DAWES HICKS, F. B. JEVONS, H. H. JOACHIM, A. D. LINDSAY, J. H. MUIRHEAD, A. S. PRINGLE-PATTISON, C. READ, A. ROBINSON, J. A. SMITH, N. KEMP SMITH, G. F. STOUT, and Principals J. B. BAILLIE and G. GALLOWAY.

Editor—Prof. G. E. MOORE.

Treasurer—Dr. F. C. S. SCHILLER.

Secretary—Mr. J. I. McKIE.

Guarantors—Prof. H. WILDON CARR, Dr. R. R. MARETT, Dr. F. C. S. SCHILLER, and Mrs. HENRY SIDGWICK.

MEMBERS.

Aaron (R. I.), Llwyfenni, Clydach-on-Tawe, Swansea.
Ade (F. C.), Jordans, Mottingham Lane, Mottingham, London, S.E. 9.
Ainslie (D.), The Athenæum, Pall Mall, S.W. 1.
Albuquerque (M. d'A.), 30 Rue do Conde, Ponta Delgada, Azores.
Alexander (Prof. S.), The University, Manchester.
Ananda Acharya (Swami Sri), Gaurisankar-Saeter, Alvdal, Norway.
Anderson (Prof. J.), Department of Philosophy, The University, Sydney, Australia.
Anderson (Prof. W.), University College, Auckland, N.Z.
Annand (Dr. R.), 102 Sunningfields Road, Hendon, N.W. 4.
Attlee (C. M.), Dept. of Education, 22 Abercromby Sq., Liverpool.

Baillie (Vice-Chancellor J. B.), The University, Leeds.
Bain (Mrs.), 50 Osborne Place, Aberdeen. *Hon. Member.*
Barker (H.), Cairnmuir Road, Corstorphine, Edinburgh.
Barrett (Prof. C. L.), University of California, Los Angeles, Cal., U.S.A.
Bartlett (F. C.), St. John's College, Cambridge.
Bates (J. A. E.), Directorate-General of Posts, Shanghai, China.
Beech (F. P.), National Provincial Bank, Llandilo, S. Wales.
Begg (J. C.), 12 Fyfield St., Roslyn, Dunedin, N.Z.
Bennett (E. S.), 75 Rodney Court, Maida Vale, W. 9.
Berkeley (Capt. H.), Olvido, Falicon, Alp. Mar., France.
Blevin (W. P.), 21 Belmont Drive, Newsham Park, Liverpool.
Blunt (H. W.), Orangeville, Falkland Rd., Torquay.
Bonar (J.), 13 Redington Road, Hampstead, N.W.
Bowman (Prof. A. A.), The College, The University, Glasgow.

BOYNTON (Prof. R. W.), The University of Buffalo, N.Y., U.S.A.
BRAITHWAITE (R. B.), King's College, Cambridge.
BREN (Rev. R.), 68 Wheeleys Road, Edgbaston, Birmingham.
BRETT (Prof. G. S.), The University, Toronto, Canada.
BROAD (Dr. C. D.), Trinity College, Cambridge.
BROSNAN (Rev. J. B.), St. Patrick's Church, Rochdale.
BROWN (G.), 4 Montgomerie St., North Kelvinside, Glasgow.
BROWN (Dr. W.), Ch. Ch., Oxford.
BULL (H.), Copse Side, Boar's Hill, Oxford.
BURGH (Prof. W. G. de), 2 Southern Hill, Reading.

CAMPION (G. G.), Inglegarth, Bramhall, Cheshire.
CARR (Prof. H. W.), The University of Southern California, Los Angeles, Cal., U.S.A.
CHADWICK (J. A.), c/o Midland Bank, Cambridge.
CHAPMAN (H. W.), Pedlar's Oak, Ivy House Lane, Berkhamsted.
COIT (Dr. S.), 30 Hyde Park Gate, London, S.W.
CONNELL (Rev. J. D.), Clayport Presbyterian Manse, Alnwick, Northumberland.
COOKE (H. P.), Clevelands, Lyndewode Road, Cambridge.
COX (H. H.), Lincoln College, Oxford.
CRAWLEY (Mrs. C. W.), Ladies Park Club, 32 Knightsbridge, S.W.

D'ARCY (Rev. M. C.), Campion Hall, Oxford.
DAVIES (W. T.), The Knoll, Haden Hill, Old Hill, Staffs.
DENNES (Prof. W. R.), Box 38, Wheeler Hall, University of California Berkeley, Cal., U.S.A.
DESSOULAVY (Rev. Dr. C.), 171 Fentiman Road, S.W. 8.
DIBDIN (Sir L. T.), Church House, Deans Yard, Westminster, S.W.
DIXON (Major E. T.), Billy Dun, Halfway Tree, Jamaica, W.I.
DODD (P. W.), Jesus College, Oxford.
DORWARD (Prof. A. J.), The University, Liverpool.
DUBS (Prof H. H.), Marshall College, Huntington, W.Va., U.S.A.
DUCASSE (Prof. C. J.), Brown University, Providence, R.I., U.S.A.

EALES (W. C.), The University, Cape Town, South Africa.
EDGELL (Miss B.), 15 Lyon Road, Harrow.
EDWARD (Prof. Dr. K.), St. Andrews Coll., The University, Sydney Australia.
EDWARDS (Rev. E. W.), Bicknor Rectory, Hollingbourne.
ENGLAND (Rev. F. E.), 20 Fairmount Rd., Bexhill-on-Sea, Sussex.
EWING (Dr. A. C.), University College, Swansea.

FAWCETT (E. D.), Le Verger, Clarens, Switzerland.
FERGUSON (Prof. A. S.), The University, Aberdeen.
FIELD (Prof. G. C.), The University, Bristol.
FINDLAY (J.), Transvaal University College, Pretoria, South Africa.
FLOWER (Rev. Dr. J. C.), 84 Chesterton Road, Cambridge.
FORSYTH (Prof. T. M.), Grey College, Bloemfontein, South Africa.
FOSTER (M. B.), Christ Church, Oxford.
FOX (C.), Warkworth House, Cambridge.
FOX (Principal S. J.), Union College, 108 Fox St., Johannesburg, South Africa.

GALLOWAY (Principal G.), St. Mary's College, St. Andrews, N.B.
GAUSS (Dr., H.), Liestal, Switzerland.
GIBSON (Prof. J.), Bron Hwfa, Bangor, Wales.
GOLDSBROUGH (Dr. G. F.), Church Side, Herne Hill, S.E.
GORDON (Rev. A. G.), Kettle Manse, Fife.

GRANGER (Prof. F.), University College, Nottingham.
GREGORY (J. C.), 3 Oak Villas, Bradford.
GREIG (J. Y. T.), Armstrong College, Newcastle-on-Tyne.
GRUBE (Prof. G. M. A.), Trinity College, Toronto, Canada.
GUNN (Prof. J. A.), The University, Melbourne, Australia.

HALLETT (H. F.), The University, Leeds.
HAMPTON (Prof. H. V.), Training College, Cruickshank Rd., Bombay, India.
HARDIE (R. P.), 13 Palmerston Road, Edinburgh.
HARDIE (W. F. R.), Corpus Christi College, Oxford.
HARE (Miss K. C.), 3 Albany Terrace, London, N.W. 3.
HARRIS (Dr. C. R. S.), All Souls' College, Oxford.
HARVEY (J. W.), Armstrong College, Newcastle-on-Tyne.
HAYDOCK (G. H.), The University, Glasgow.
HAZLITT (Miss V.), 23B North Hill, Highgate, N.
HEADLY (L. C.), House on the Hill, Woodhouse Eaves, Loughborough.
HEATH (Prof. A. E.), 2 Devon Terrace, Swansea.
HENSON (B. L.), Downing College, Cambridge.
HICKS (Prof. G. D.), 9 Cranmer Road, Cambridge.
HOERNLÉ (Prof. R. F. A.), The University, Johannesburg, South Africa.
HOOPER (S. E.), Glen Cottage, Cookham Dean, Berks.

JACKSON (Prof. R.), Queen's University, Kingston, Ontario, Canada.
JESSOP (T. E.), University College, Hull.
JEVONS (Dr. F. B.), Bishop Hatfield's Hall, Durham.
JOACHIM (Prof. H. H.), New College, Oxford.
JONES (Prof. W. Jenkyn), University College, Aberystwyth.
JONES (Rev. Dr. W. Tudor), 14 Clifton Park, Bristol.
JOSEPH (H. W. B.), New College, Oxford.

KARPUR SHRINIVASA RAO (Raja Sabha Bhushana), Chamarajapet, Bangalore, India.
KAUL (R. N.), Merton College, Oxford.
KEATINGE (Dr. M. W.), Tommy's Heath, Boar's Hill, Oxford.
KELLY (Rev. A. D.), Kelham Theological College, Newark-on-Trent.
KEYNES (Dr. J. N.), 6 Harvey Road, Cambridge.
KIRKBY (Rev. Dr. P. J.), Rectory, Chorley, Lancashire.
KNEALE (W. C.), 21 Clarence St., Liverpool.
KNIGHT (A. R.), The University, Aberdeen.
KNOX (Capt. H. V.), 16 Park Terrace, Oxford.
KOL (E. H.), 5 Northcote Rd., Clifton, Bristol.

LANGFORD (Prof. C. H.), Philosophy Department, University of Michigan, Ann Arbor, Mich., U.S.A.
LAING (B. M.), The University, Sheffield.
LAIRD (Prof. J.), The University, Aberdeen.
LAMONT (W. D.), Dept. of Moral Philosophy, University, Glasgow.
LAW (Rev. R. H.), The Rectory, Lazonby, Cumberland.
LEE (A.), Hartley College, Whalley Range, Manchester.
LEGGE (A. E. J.), The Athenæum, Pall Mall, S.W.
LIBRARIAN (The), Bedford College, N.W. 1.
LIBRARIAN (The), The University, Bratislava, Czechoslovakia.
LIBRARIAN (The), Heythrop College, Chipping Norton, Oxon.
LIBRARIAN (The), The University, Jerusalem, Palestine.
LIGHTHALL (W. D.), 34 Royal Insurance Building, Montreal, Canada.
LILLIE (Dr. R. A.), 85 Great King St., Edinburgh.
LINDSAY (Prof. A. D.), Balliol College, Oxford.
LINDSAY (Rev. W. T.), Holly Grove, Newtonards, Co. Down, Ireland
LUTOSLAWSKI (Prof. W.), Jagiellonska, 7 m. 2, Wilno, Poland.

MABBOTT (J. D.), St. John's College, Oxford.
MACBEATH (Prof. A.), Queen's University, Belfast.
MCDOUGALL (Prof. W.), Duke University, Durham, N.C., U.S.A.
MACE (Mrs.), 3 Howard Place, St. Andrews, Scotland.
MACKAY (Prof. D. S.), University of California, Berkeley, Cal., U.S.A.
MACKENZIE (Prof. J. S.), 19 Warwick Crescent, London, W. 2
MACKENZIE (Sir W. L.), 14 Belgrave Place, Edinburgh.
MCKERROW (J. C.), 34 Cartwright Gardens, W.C. 1.
MCKIE (J. I.), Brasenose College, Oxford.
MACKINTOSH (Prof. H. R.), 81 Colinton Road, Edinburgh.
MACLAGAN (W. G.), Oriel College, Oxford.
MACMURRAY (Prof. J.), University College, Gower St., London, W.C.
MALLET (E. H.), 14 St. James's Square, Bath.
MARETT (Dr. R. R.), Exeter College, Oxford.
MARSH (J.), 94 London Rd., East Grinstead, Sussex.
METZ (Dr. R.), Anlage 53, Heidelberg, Germany.
MILES (C. R.), 20 Friar Lane, Leicester.
MILETICH (Prof. I.), Sarajevo, Yugoslavia.
MOBERLY (Principal W. H.), The University, Manchester.
MOORE (Prof. G. E.), 86 Chesterton Road, Cambridge.
MORELLI (Prof. J. B.), Canelones 982, Montevideo, Uruguay.
MORGAN (Rev. W. H.), Ystrad Vicarage, Felinfach, Cardiganshire.
MORIKAWA (Prof. C.), 87 Shoan, Takaidomachi, Tokyo, Japan.
MORRISON (Rev. Dr. W. D.), 38 Devonshire Place, London, W.
MUIRHEAD (Prof. J. H.), Dyke End, Rotherfield, Sussex.
MURE (G. R. G.), Merton College, Oxford.
MURRAY (A. R. M.), Woodend, Jedburgh, Scotland.
MURRAY (Principal J.), University College, Exeter.

NAIRNE (Prof. A.), Jesus College, Cambridge.
NOTT (F. R.), 11 Raeburn Close, Hampstead Garden Suburb, N.W. 11.
NUNN (Sir T. P.), Day Training College, Southampton Row, W.C.

OAKELEY (Miss H. D.), 6 Gordon Square, W.C. 1.
O'RAHILLY (Prof. A.), University College, Cork, Ireland.
ORD (W. E.), Jessmond, Dreghorn Loan, Colinton, Midlothian.
OSBORN (Sir F.), The Elms, Portsmouth Rd., Surbiton.

PARKER (Prof. De Witt H.), University of Michigan, Ann Arbor, Mich., U.S.A.
PATON (Prof. H. J.), The University, Glasgow.
PEARSON (Miss E. A.), Budbury Farm, Bradford-on-Avon, Wilts.
PERCY (Rev. J. D.), Larkfield, Oakworth, nr. Keighley, Yorks.
PHADKE (Prof. N. S.), Rajaram College, Kolhapur, India.
PICKARD-CAMBRIDGE (W. A.), Worcester College, Oxford.
POLLOCK (Sir F., Bart.), 21 Hyde Park Place, London, W.
PORTEOUS (Prof. A. J. D.), McGill University, Montreal, Canada.
PRICE (H. H.), Trinity College, Oxford.
PRICHARD (Prof. H. A.), Corpus Christi College, Oxford.
PRINCIPAL (The), Sind National College, Hyderabad, Sind, India.
PRINGLE-PATTISON (Prof. A. S.), The Haining, Selkirk, N.B.

QUICK (Canon O. C.), 3 Amen Court, London, E.C. 4.

RABY (J. P.), 117 Woodstock Rd., Oxford.
RAINER (A. C. A.), 51 Merchiston Crescent, Edinburgh.
RATNASWAMY (S.), 119 Hultsdorp, Colombo, Ceylon.
READ (Prof. C.), Wood Lane, Birmingham Road, Solihull, Birmingham.
REID (L. A.), 171 Chatham Street, Liverpool.
RELTON (Rev. Dr. H. M.), 45 Gloucester Terrace, Hyde Park, W.
RICHARDSON (C. A.), Willow House, Whalley, Blackburn.
RINGWALT (R. C.), Mount Vernon, Ohio, U.S.A.
RIVETT (Miss D. M.), McIntosh St., Gordon, Sydney, Australia.

ROBINSON (Prof. A.), Observatory House, Durham.
ROSS (Prof. G. R. T.), 1 Townsend Drive, St. Albans.
ROSS (W. D.), Provost's Lodgings, Oriel College, Oxford.
ROTH (Prof. Dr. H. L.), The University, Jerusalem, Palestine.
ROWLANDS (Principal W. S.), Robertson College, Jubbulpore, India.
RUSSELL (Hon. B. A. W.), Trinity College, Cambridge.
RUSSELL (Prof. L. J.), The University, Birmingham.
RYLE (G.), Christ Church, Oxford.

SARAILIEV (Prof. I.), 50 Soloun, Sofia, Bulgaria.
SCHILLER (Dr. F. C. S.), Corpus Christi College, Oxford.
SCOTT (Prof. J. W.), University College, Cardiff.
SETH-SMITH (Rev. F.), Revonah, Radlett, Herts.
SHAND (A. F.), 1 Edwardes Place, London, W.
SHEARMAN (Dr. A. T.), University College, London, W.C.
SHEBBEARE (Rev. C. J.), Stanhope Rectory, Durham.
SHELTON (F. D.), Rosedale, Alberta, Canada.
SHELTON (H. S.), 5 Ferry Road, Teddington.
SIDDHANTA (Prof. A. K.), Dyal Singh College, Lahore, India.
SIDGWICK (A.), Trewoofe Orchard, St. Buryan, Cornwall.
SIDGWICK (Mrs. H.), Fisher's Hill, Woking, Surrey. *Hon. Member.*
SMITH (A. H.), New College, Oxford.
SMITH (Prof. J. A.), Magdalen College, Oxford.
SMITH (Prof. N. Kemp), The University, Edinburgh.
SORLEY (Prof. W. R.), St. Giles', Chesterton Lane, Cambridge.
STAPLEDON (W. O.), 7 Grosvenor Avenue, West Kirby, Liverpool.
STEBBING (Miss L. S.), 27 Belsize Park, N.W. 3.
STEWART (Prof. J. A.), 14 Bradmore Road, Oxford.
STOCKS (Prof. J. L.), The University, Manchester.
STOKES (Prof. G. J.), 10 St. John's Road, Penge, S.E. 20.
STOTT (Rev. A.), Tikonko, Bo, Sierra Leone, W. Africa.
STOUT (A. K.), University College, Bangor.
STOUT (Prof. G. F.), Craigard, St. Andrews, N.B. *Hon. Member.*
STRONG (Prof. C. A.), Villa Le Balze, Fiesole, Florence, Italy.
STRUTHERS (L. G.), Igguldene, Sandwich, Kent.
STURT (H.), 5 Park Terrace, Oxford. *Hon. Member.*
SUTTON (C. W. H.), St. Peter's Hall, Oxford.

TOSSIZZA (Baron M. A.), 8 rue de l'Echelle, Paris, I, France.
TURNER (J. E.), 55 Allerton Road, Mossley Hill, Liverpool.

WADIA (Prof. A. R.), The University, Mysore, India.
WAGNER (O. J. M.), P.O. Box 28, Paarl, South Africa.
WALKER (J.), Wooldale, Thongsbridge, Huddersfield.
WALKER (Rev. L. J., S.J.), Campion Hall, Oxford.
WALLEY (J. T.), Chardleigh Green House, Chard, Somerset.
WARBEKE (Prof. J. M.), c/o D. Nutt, 212 Shaftesbury Ave., W.C.
WARD (A. B.), Endcliffe Vale Road, Sheffield.
WARD (S. B.), 5 Place du Panthéon, Paris, France.
WARREN (Mrs. Fiske), 8 Mount Vernon Place, Boston, U.S.A.
WATERHOUSE (Prof. E. S.), The College Villa, Richmond Hill, Surrey.
WEBB (Prof. C. C. J.), Walnut Tree House, Marston, Oxford.
WELDON (T. D.), Magdalen College, Oxford.
WHETNALL (Miss E. M.), Cranford Hall, nr. Hounslow, Middlesex.
WHITEHEAD (Archdeacon L. G.), Selwyn College, Dunedin, N.Z.
WIDGERY (Prof. A. G.), Duke University, Durham, N.C., U.S.A.
WIGHTMAN (S.), 10 Silver Birch Avenue, Fulwood, Sheffield.
WISDOM (J.), The University, St. Andrews, Scotland.
WOHLGEMUTH (Dr. A.), Rutland Lodge, Mary's Hill Rd., Shortlands, Kent.
WOLTERS (Mrs. G.), 45 Albert Road, Caversham, Reading.

YORK (Most Rev. the Archbishop of), Bishopsthorp, York.

Those who wish to join the Association should communicate with the Hon. Secretary, Mr. J. I. McKie, Brasenose College, Oxford; or with the Hon. Treasurer, Dr. F. C. S. Schiller, Corpus Christi College, Oxford, to whom the yearly subscription of sixteen shillings should be paid. Dr. Schiller desires it to be known that from January, 1931, to the end of May, he will be away from Oxford, and should be addressed at the University of Southern California, Los Angeles, U.S.A.

In return for their subscription members receive Mind gratis and post free, and are entitled to buy back-numbers both of the Old and the New Series at half-price. Members resident in America can pay their subscription ($4) into the account of the Hon. Treasurer (Dr. F. C. S. Schiller) at the Fifth Avenue Bank, 530 Fifth Avenue, New York.